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WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

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Lectures and Addresses.

A MEMOIR OF

DR. JAMES MARION SIMS.*

By THOMAS ADDIS EMMET, M. D.

JAMES MARION SIMS sprang from the Scotch-Irish stock who settled up the frontiers of North Carolina and eastern Tennessee.

Many years ago, while investigating for my pleasure a point of local history, I was struck with the frequent mention of the name of Sims in this section of country, and, on inquiry, learned from the doctor that his family first settled on the frontier, and, after the Revolution, his grandparents, I believe, returned to the "settlements."

In Lancaster District, S. C., Dr. Sims was born, January 25, 1813. Of his boyhood I have heard him state that he was a good boy, but a dull one at school—scarcely a just criticism, I think. He may have been wanting in application, but, if the man was any indication of the boy, there could have been no time of his life when he would have been dull in any sense of the term. In 1832 he closed his academic studies, and received the degree of Bachelor of Arts from the College of South Carolina, at Columbia. He began the study of medicine in the office of Dr. B. C. Jones, a practitioner of Lancaster, and his first course of lectures was taken in the Medical College of Charleston, S. C. The following years he received his degree from the Jefferson Medical College, Philadelphia.

He returned to the place of his birth to commence the practice of his profession, but, not receiving a sufficient encouragement from those who had known him from childhood, he removed to Mount Meiggs, a settlement a few miles from Montgomery, in the State of Alabama. In 1836 he married Miss Eliza T. Jones, the daughter of his old preceptor, and remained a year longer at Mount Meiggs; then he practiced about three years in Macon County, and finally settled at Montgomery about 1840.

He seemed to have made but little progress during the first year; but shortly after this time he became interested in the operation for strabismus, which had been recently devised by Dieffenbach, and, having been able to put it successfully in practice, together with a remarkable cure he effected in a case of club-foot, he gained a surgical practice which in a few years became one of the largest in the State. His first contribution to medical literature was a paper on "Trismus Nascentium," which was published in the "American Journal of the Medical Sciences" in 1846.

In July, 1845, Dr. Sims was called to a patient who had been thrown from a carriage and was suffering from a retroversion in consequence of the accident. During his effort to restore the uterus he placed her in what is now termed the "knee-and-chest position"; but, finding that he could not fully reach the womb with the index-finger alone, he

introduced the second one, with the immediate effect that he could then neither touch the cervix nor the walls of the vagina, and, to his surprise, she announced that she was entirely relieved. To this accident, and to the dilatation of the vagina when placed in a certain position after retracting the perinæum with the fingers, we are indebted for the speculum bearing his name, and for the first operation by him in a case of vesico-vaginal fistula.

In the anniversary discourse delivered by Dr. Sims before this body on the 18th of November, 1857, the subject being "Silver Sutures in Surgery," he had given a most graphic description of the difficulties overcome, and of the many disappointments he experienced during some four or five years before he cured his first case. This success was gained June 21, 1849, by the use of silver wire, after thirty failures, in this individual alone, to close the opening by means of silk.

Shortly after this triumph, and with a most prosperous future before him, his health failed, and he became a sufferer from chronic diarrhœa. It was a type of the disease which seemed particularly fatal at that time, and equally so if contracted in the Southern States or in Mexico, from which country so many of the troops were then returning home after the war to die from this malady. For two years or more Dr. Sims sought to regain his health by a change of climate, and with any improvement would return to his business, but finally was obliged to relinquish it entirely.

In October, 1851, while in Philadelphia, and when in the last extremity of the disease, as he supposed, he dictated a paper on "Vesico-Vaginal Fistula," which embodied his experience up to that date, and this was published in the "American Journal of the Medical Sciences" for January, 1852.

Dr. Sims had observed, during a number of visits to New York, that the only improvement in his health occurred while he remained in the city. Early in the autumn of 1853 he decided to settle permanently in New York, and in November of that year I first made his acquaintance. With a growing family, and now in straitened circumstances, it was necessary to select a house at a moderate rent, and on the outskirts of the city. This building, which had just been erected, was situated in Madison Avenue, between Twenty-eighth and Twenty-ninth Streets. To the best of my recollection it stood alone, with no first-class dwelling-house nearer than Twenty-third Street, and in full view of the East River. I happened to be walking with a mutual friend, and had never heard of Dr. Sims before. His sign suggested the visit, and I had the choice of going in or of standing on the street. I was introduced, and then little thought how close our future relations were to be, or that this man, so emaciated and apparently at death's door, was about to enter upon a career which was to be of world-wide renown. I could then as little realize the future as I could have foreseen the growth of the city from its then limits to its present bounds.

In October, 1853, Dr. Sims received from Dr. Mott his first patient in New York—a small vesico-vaginal fistula, where the neck of the uterus was found in the bladder, a

* Read before the New York Academy of Medicine, January 3, 1884.

condition then regarded as unique. But this is now well known to be a common result from retroversion, when produced by inflammatory shortening of both broad ligaments, and where, the slough having taken place directly in front of the cervix, it easily passed into the bladder, and, with the cicatrization afterward, the opening became reduced in size. Dr. Sims successfully closed this fistula, but left the neck of the uterus in the bladder, and reported the case in the first volume of the "*American Medical Monthly*," published in this city, February, 1854.

Soon after his arrival, he formed the acquaintance of Dr. Barker, Dr. Mott, Dr. Francis, Dr. Stevens, and others, and it was thought advisable that Dr. Sims should deliver an address to the profession setting forth the necessity for a woman's hospital, where vesico-vaginal fistula and a few of the injuries of childbirth might be treated. Little thought was given at that time to the need for any special place or treatment for the diseases of women. I well recollect a statement made by Dr. David M. Reese, now many years dead, but at that time a prominent general practitioner and a fair surgeon, that it was easy to apply the nitrate of silver through a cylindrical speculum to any case of ulceration; an infusion of red-oak bark could be given for a leucorrhœa, and, if a prolapse existed, any one could put in a Meigs's ring or Physick's spherical pessary. He laughed at the idea of the necessity for a woman's hospital, and thought it impossible to find enough women sick enough to fill it. What a contrast between such a statement and our knowledge of to-day! This gentleman felt satisfied that he had mastered the whole subject in treating these three conditions, which, as symptoms of different pathological changes, would not to-day convey alone to any one a knowledge of the true lesion. This appeal was made by Dr. Sims at the Stuyvesant Institute, in Broadway opposite Bond Street. It was judiciously arranged in regard to the speakers that it should prove a success, and the indorsement there given him by the profession was the beginning. I attended this meeting, which was held May 18, 1854, and from that time to the present I have been familiar with every circumstance connected with the development of the Woman's Hospital. In fact, if the history of this institution is ever to be written, it must be done from the information which I alone can furnish, for no one is now living who could do so much.

As Dr. Sims's career was so closely identified with the early history of the Woman's Hospital, it is necessary that I should make some reference to those who aided him in the good work. All credit must be given Dr. Sims for the conception of the Woman's Hospital, as well as for the power of impressing others with the necessity of its existence, and his name must be for ever identified with the institution as the originator. But he had none of the qualifications of an organizer, and his conception would not have even reached a realization without the aid of others. Every one, I believe, connected with the movement has received more or less credit from some source, with a single exception. I entered upon this subject with the object of recording what I know to be true, and had written out my recollections without the knowledge of the gentleman to a point where it was necessary then to consult him in regard to certain data which he

could alone furnish. I refer to our President, and believe that to Dr. Fordyce Barker, more than to any other individual, we are indebted for the early organization of the Woman's Hospital. Dr. Barker was about the first acquaintance made by Dr. Sims in the medical profession after settling in this city, and it was through him he became acquainted with Dr. Mott, Dr. Francis, Dr. Stevens, and others. Dr. Barker took an active part in the meeting, and just after, in the June number of the "*American Medical Monthly*," wrote an editorial article on Dr. Sims's claims, entitled "*Young America vs. British Surgery*." The points are well taken against a surgeon of St. Mary's Hospital, London, who had reported two cases of vesico-vaginal fistula, operated on by him, in which he used Sims's position, speculum, silver sutures, and self-retaining catheter without the slightest credit being given to any one but himself. The editor's advice—"Fie, Mr. Bull, set a better example before your young men; if you get an idea from young America, have the manliness to say so"—was excellent, but it was not followed altogether, since we see sometimes, even at the present day, the force of a bad example.

At the first meeting held to form an organization, Dr. Barker suggested, with a single exception, the names of all the ladies who constituted the first board of managers of the Woman's Hospital Association. He was at the time the family physician to all, with the single exception, and it was through his personal influence that these ladies were induced to assume the responsibility. Mrs. Fordyce Barker was the first secretary of this board, and discharged the duties for two years after its organization, in a position which, even under more favorable circumstances, would have been a thankless one. Soon after the hospital had gone into operation, Dr. Barker was able to render further service, while twice president of the State Medical Society, at Albany, and to prepare the way for obtaining from the Legislature the charter of the institution now known as the Woman's Hospital of the State of New York.

Dr. Francis, who knew every one, was a host in himself, and it was his special province to prepare, from time to time, the necessary appeals to the public and to the Legislature for obtaining the charter. Mr. Beekman, Mr. Benedict, and others, who formed the Board of Governors of the proposed State Hospital, and who were nearly all governors at the same time of the New York Hospital, obtained from the city a grant of the land for the site of the present institution, then a part of an old Potter's Field from which over thirty thousand bodies were removed. Through the efforts chiefly of Mrs. T. C. Doremus, a house was obtained in Madison Avenue, and her husband, I believe, became security for the rent. How much was due to the individual efforts of this noble woman will never be known; she kept her own counsel, but served the institution, even to the day of her death, with a most remarkable singleness of purpose. In brief, I have given an account of the chief movers in organizing this undertaking, a work which was physically impossible for a single individual to have performed. Dr. Sims, however, did accomplish even a greater work in his own legitimate sphere, and this I will endeavor to trace.

The Woman's Hospital Association opened its doors

May 4, 1855, and Mary Smith, the first patient received, suffered from a vesico-vaginal fistula, and had arrived from Ireland but a short time before.* She proved to be one of the worst cases ever admitted to the institution. To keep the fundus of the bladder from prolapsing through the vagina, some almshouse physician of her district had, before she left, introduced into the cavity a wooden float from a seine, in size not less than a closed fist, and this had become thoroughly coated with a phosphatic deposit. This miserable object was operated on over thirty times, almost always on the knees and chest, each operation lasting from two to three hours, without ever taking an anæsthetic, and she suffered during a period of nearly five years before even partial retention was gained. For a long time she was the "show-case" for demonstrating the mode of operating. After the opening had been closed, so much traction was then exerted on the urethra that more or less urine escaped while in the upright position, and in time, from this source of irritation, a stone was at length formed in the bladder. Against my advice, some years ago, the urethra was dilated for the removal of the stone, and the neck of the bladder was lacerated, with incontinence afterward, so that the first patient admitted to the hospital is still living in suffering, in poverty, and incurable.

The consulting board consisted at first of Dr. Francis, Dr. Mott, and Dr. Stevens; Dr. Green and Dr. Delafield were subsequently added. These gentlemen were all eminent in their different branches of the profession, but were necessarily conservative in so new a field. Dr. Sims early evinced a boldness and desire to enter upon an investigation as to how far abdominal surgery could be made safe through the use of silver wire, and the difficulties would have been soon overcome if he could have had a portion of the responsibility shared by his consulting board. I was present, as a listener, at one of the early consultations, when Dr. Sims proposed to open the abdomen for the removal of a long pedunculated fibroid—an operation which few would hesitate in doing to-day. Dr. Francis and Dr. Mott were at first disposed to yield to Dr. Sims, until Dr. Stevens entered a protest. He had no opinion to express, he said, in regard to Dr. Sims's views; they might be all right, but he felt, if Dr. Sims should succeed by chance, that every young surgeon in the land would be ripping open the bellies of the young women to ascertain if they had such growths to be removed, and he would oppose such an operation simply on the ground of humanity. Dr. Sims was not able to carry out his wishes in regard to several cases of ovarian tumor, and it was not until about 1860 that he felt his position sufficiently established to perform, on his own responsibility, his first ovariectomy.

Dr. Sims visited Europe early in July, 1861; he remained absent until the middle of January, 1862, and, on August 31, 1862, he left New York with his family to reside abroad. During his service of six years and nine months in charge of the Woman's Hospital Association, his only

* I will mention the fact in passing that, up to ten years ago, exactly fifty-eight per cent. of all the patients with vesico-vaginal fistula which had been treated were admitted, like this woman, directly from the different almshouses of Great Britain and from the Continent.

contribution to medical literature was, I believe, the Address "On the Use of Silver Sutures," and he seemed to have taken no active part in the proceedings of the medical societies. He was, however, most actively employed, and, with a gradual improvement in his health, he developed a remarkable tolerance, as it were, for hard work. He was perfecting and devising new instruments, studying modes of exploration, and planning different surgical procedures, all in a field too new to find any precedent to aid him in the experience of others. In the midst of this busy life the civil war came on and cut short this continued strain to both mind and body. It proved, however, a fortunate circumstance for him and for his subsequent reputation. His residence in Europe gave him the leisure, and it became even a necessity, to perfect and utilize much which would otherwise have been lost.

Dr. Sims was by nature a surgeon, and one of the most dexterous operators I ever witnessed. He was bold and self-reliant, never at a loss, and his ingenuity was unequalled. He was in no sense a plodder, for his mind and body were always too restless and active. He was so fertile in resource when I first knew him that he perfected scarcely a tithe of the brilliant conceptions passing constantly through his mind, and it was impossible to see him perform the most simple operation without learning something new. It may be held that, for want of further hospital advantages for study, Dr. Sims's creative power culminated when he left the Woman's Hospital. As his surgical reputation will be hereafter always intimately associated with what he had perfected before that time, I will briefly give a synopsis of his work:

In perfecting the preparatory treatment, in devising the needed instruments, and by overcoming the difficulties in operating for vesico-vaginal fistula, Dr. Sims exhibited a degree of pertinacity which in after-life he was unable to devote to the development of any other special object. Notwithstanding a similar speculum has been taken from the ruins of Pompeii, and a like instrument, as a retractor, had been used by Metzler, in Germany, before the present instrument had been devised by Dr. Sims, the credit in the future must belong to him alone. The metallic suture had been used by Dr. Le Vert, of Mobile, Ala., before 1828, and by Mr. Gosset, of London, in 1834; the clamp suture had been already employed, with the "knee-and-chest position," and with other details now in use; while vesico-vaginal fistulæ had been successfully closed in different parts of the world before Dr. Sims began to study his profession. "Yet with all," as I have elsewhere stated, "were we assured of the fact that Dr. Sims was as familiar as we are at the present time with what had been accomplished before his day, it should not lessen the credit due him. What had been done fell on barren soil, bore no fruit, was not appreciated, and was destined to be forgotten. From Dr. Sims's hand the operation was accepted by the profession; it was immediately put into successful practice, and to the present day it has not been materially modified for the better in either its principles or its mode of execution."

I hold in my hand a speculum which belonged to Dr. Sims, and is, I believe, the first perfected one from the hands

of the instrument-maker. From the beginning of time to the present I believe that the human race has not been benefited to the same extent, and within a like period, by the introduction of any other surgical instrument. Those who do not fully appreciate the value of the speculum itself have been benefited indirectly to an extent they little realize, for the instrument, in the hands of others, has probably advanced the knowledge of the diseases of woman to a point which could not have been reached for a hundred years or more without it. Those who come upon the field to-day can not realize what has been accomplished, or the fact that the study of gynecology now covers a more extended field than the whole knowledge of medicine did forty years ago. The advance made in this branch of surgery has, through this instrument, become especially identified with this country, where it has been chiefly employed.

To Dr. Sims we are indebted for the technique of the examination. He first suggested the advantage of employing the left hand and the use of conjoined manipulation. The advantages of "Sims's position" on the left side, I believe, can not be questioned. In addition to the speculum, we are indebted to him for the depressor, the flexible copper sound, the tenaculum now in use, and the elevator. He first introduced the use of glycerin and taught its advantages. He perfected the making of sponge-tents, and first understood how to apply a tampon, an operation which can never be performed properly without the use of his speculum. The stick, with the screw at the end, for removing the cotton, is his, and he introduced the probang sponge-holders now in use. He first had the block-tin pessary made, and from his hands I have seen formed, over twenty-five years ago, every shape and modification which has since been devised. Dr. Sims was the first to abandon that barbarous appliance, the quill suture, and to simplify the operation for closure of a lacerated perineum by the use of the interrupted silver suture. He gave us the operation on the anterior wall of the vagina for the cure of procidentia and prolapse. And, notwithstanding it fails when used alone for keeping up the uterus, it is perfect if employed with the object of holding the uterus at a distal point from the pubes, while the needed support is obtained by the proper operation on the posterior wall. I could indefinitely extend the record of operations devised, but not carried out, and of instruments never perfected. There were certain operations practiced by him which will go into disuse, and some of his teachings will not stand the test of time. But this is not to his discredit, for few men will ever have more to live after them. Crowded into a few years as were all of Dr. Sims's opportunities for clinical study in hospital practice, it is most remarkable that from the brain and hands of one individual so much should have emanated and so perfected that the human race will be benefited long after the source has been forgotten.

I can not attempt to trace his career abroad, or give more than a general outline of this period of his life. He visited the chief cities of Europe, but resided for the greater portion of the time in Paris and London. He received marked attention everywhere, and at once entered upon a large and extended practice. In 1865, while residing in London, he

wrote his "Clinical Notes on Uterine Surgery," and states in his preface: "It is simply a voice from the Woman's Hospital, which, in all probability, would never have been heard if I had remained at home." This book was translated into the French and German languages, and issued at the same time with the English edition, which was afterward reprinted in this country. The work attracted a great deal of interest, at the time of its issue, as a very remarkable one. I believe few medical works of its size were ever issued containing so much original and, I may say, suggestive matter. It was so far imperfect, or rather fragmentary, in character as to treat of a very limited range of diseases. But its publication was the turning point of modern gynecology, or, more strictly speaking, American gynecology, of which he may be justly termed the father. For the critic, however, this work had many weak points, as it was not a systematic production, and was never intended to be one. He had also advanced, with his enthusiastic zeal, certain views which were theoretical and would not stand the test of clinical experience. Withal, in the history of some cases there was a want of accuracy, as he had not access to the hospital records, and had to trust to his memory. It is now a source of no little regret to those who fully appreciated the true value of the book that Dr. Sims did not revise it and produce a systematic work embodying his matured experience, of which so much has now been lost.

Several years after the departure of Dr. Sims for Europe a sufficient sum of money, by subscription, was collected through the personal efforts of Mr. A. R. Wetmore, the late Vice-President of the Board of Governors, and the cornerstone of what is termed, in recognition of this service, the Wetmore Pavilion of the Woman's Hospital was laid May 23, 1866. This building was completed on the 12th of October, 1867, and was then occupied by patients for the first time. The Woman's Hospital Association, which had consisted of a Board of Lady Managers, now ceased to exist as a distinct corporation, and became blended with the one in charge of the Woman's Hospital of the State of New York. After the hospital had been in full operation for a year or more, Dr. Sims returned to New York for a few months, having been absent some six years. In 1868 he was appointed one of the governors of the Woman's Hospital, and had conferred on him the honorary title of Senior Consulting Surgeon. He contributed, in 1869, to the eighth volume of the "New York Medical Journal," a paper "On the Microscope as an Aid in the Diagnosis and Treatment of Sterility," and it had been read by him before the Medical Society of the County of New York, December 7, 1868.

His family remained abroad and he was only a portion of each year in this country until after the Franco-Prussian War. While in Paris, the "Anglo-American Ambulance Corps" was organized, August 27, 1870, by eight American and the same number of English surgeons, with Dr. Sims as surgeon-in-chief. He was the eldest surgeon who left Paris for this duty, and, arriving just at the commencement of the battle of Sedan, he was placed in charge of a military hospital containing four hundred beds, and served as chief for a month or more. Shortly after rendering this service he returned with his family to New York.

Dr. Sims was appointed, January 9, 1872, a member of the Board of Surgeons to the Woman's Hospital, but the new organization was not fully completed, and he did not enter regularly upon his duties until the following 1st of May. On the 1st of December, 1874, Dr. Sims resigned, thus terminating his brief service as surgeon to the Woman's Hospital, and he had no further connection with the institution until shortly before his death, when he became one of the Consulting Board.

In the "New York Medical Journal," December, 1872, and April, 1873, he contributed an article on ovariectomy, in which he advocated free drainage, through Douglas's cul-de-sac, of the peritoneal cavity. Before the New York State Medical Society, Albany, February 6, 1874, he read a paper on "Intra-Uterine Fibroids," and this was published also in the "New York Medical Journal," April, 1874. Soon after, in the "History of the Discovery of Anaesthesia," he supported the claims of Dr. C. W. Long, of Athens, Ga., to the credit of having performed the first surgical operation with the patient under the effects of an anæsthetic. A few other articles in the various journals, of minor importance, and his addresses as presiding officer of several societies, would embrace all his contributions to medical science.

Dr. Sims was elected President of the American Medical Association, and presided at the meeting held in Philadelphia, 1876. He was president of the American Gynecological Society at its meeting in Cincinnati, Ohio, 1880, and was one of the founders of the society. In recognition of the service rendered by Dr. Sims to medical science he was the recipient of many honors from different governments of Europe, and probably few men in the profession ever received an equal number of honorary distinctions from various societies in different parts of the world. One of the last honors conferred was that of Doctor of Laws from the Jefferson University, Canonsburg, Penn., with which his Alma Mater, the Jefferson Medical College, of Philadelphia, is connected.

Dr. Sims came of a long-lived family, and was remarkable for his temperate and simple mode of life. He had none of the "small vices," and every habit of life was made conducive to maintaining his health. He preserved to a late period a youthful figure, with a degree of elasticity and activity of body seldom enjoyed even in middle life. He thus had the promise of a long life, and he always said, as he expressed it, that he was "good for ninety." About two years ago, after a long and fatiguing operation, he was seized with an attack of pneumonia, and his life, day by day hanging in the balance, was only saved by the unremitting care of his medical attendants. He never fully recovered from this attack, and it necessitated the spending of the following winter in Florida, and the last in the south of Europe. During the warm weather he improved, and, on his return to New York in August last, it was thought that he had regained his former vigor and strength. To the day of his death he was actively engaged in the duties of his profession, and it is stated that he had visited a patient with his son just before retiring. During the night he was restless, and wrote for a time in bed, as was his custom. Sud-

denly his heart came to a standstill, and he died, without a struggle, November 13, 1883.

Mrs. Sims has survived her husband. A sketch of him would be incomplete without some notice of her, who continued as the sweetheart of his youth and help-mate through a long life. I have heard him state that he could have accomplished nothing without the aid and advice of his wife. She certainly devoted her life to him, and I never saw a person more dependent on another than he was on her. When I first knew them, and he was in bad health, she always prepared with her own hands every particle of food he needed. She watched over him with a singleness of purpose only equaled in the care of a mother for her offspring. For his impulsive nature her placid disposition was as essential as the fly-wheel to an engine, and he has said that through his whole life he never had to regret following her advice.

My relations with Dr. Sims in early professional life were as close as that of a son could be. Later on, from circumstances over which I had no control, we did not meet for years. During the summer of 1882, and in London, while I was closely watching the steps of an operation, some one came into the room breathing quickly, as if he had been ascending the stairs. For a second of time I was annoyed as this gentleman sided up so close to me, but his hand passed into mine as he whispered, with a familiar voice, "How are you, old Emmet?" and I shook Dr. Sims by the hand for the last time.

Original Communications.

THE RELATIONS OF A PHYSICIAN TO THE COMMONWEALTH.*

By E. C. HARWOOD, M. D.

MR. PRESIDENT AND FELLOWS: You have all been officially notified that I would speak to you this evening on "The Relations of a Physician to the Commonwealth." Heretofore you have listened to able men on a variety of topics, covering almost everything in the domain of medicine and surgery. It was for this reason that I diverged from the beaten path and assumed to give you something new and original, at least in the title; but I must assure you that I do not claim originality in the text, for it will be mostly statutory.

There are prescribed rules which must be observed to enable one to become a member of the learned professions. They are founded in good sense and are meant for the common good. A man rarely takes upon himself the responsible duty of expounding the Scriptures, and of bringing home to the human heart, buried and estranged as it sometimes may be by the cares of the world, an awakening sense of moral right and wrong, unless he carries unquestionable credentials of his fitness for his vocation. It is not enough

* Read before the Northwestern Medical and Surgical Society at its thirteenth annual meeting, December 19, 1883.

that he is fit, but those who listen should feel assured that he is so. It is wisely and properly required that there should be an authority somewhere enabled to grant the necessary credentials; the schools of divinity and the learned who preside there have the authority to grant them.

In the administration of justice there are also prescribed rules which must be observed to qualify one to practice law. A course of collegiate study, or an equivalent, and a number of years devoted to the science of the law and collateral studies are properly held to be indispensable. When a student is qualified to be received into the courts he takes a solemn oath, prescribed by a law of the commonwealth, "that he will do no falsehood, nor consent to the doing of any in court; that he will not willingly pursue or promote any false, groundless, or unlawful suit; that he will delay no man for lucre or malice; that he will conduct himself with all good fidelity, as well to the courts as his clients." *

He thus becomes an officer of the courts and is recorded as such, and is liable to be stricken from the record and disqualified to appear as counsel if he proves to be unworthy. All these provisions are of the greatest importance to the community, since it is from this class of men that the judges of constitutional law, of the rights of the people to property, liberty, character, and life, are selected.

In the medical profession the same probation is required. Certainly no one should be trusted with the serious responsibility of attempting to arrest the ravages of disease, or of inserting his professional instruments among the veins, arteries, muscles, and nerves of the human frame, who is not prepared, by a course of study, observation, and experience, to make his previous plan with science, and to carry it into effect with skill. It is for the common interest of society to discountenance unfounded pretension, and to call upon and confide in those who are certified by competent judges to be trustworthy and honorable men.

The practice of medicine and surgery was regulated by the Legislature of this State so far back as 1760—now one hundred and twenty-three years ago—when, on the 10th of June, an act was passed especially designated for the city of New York.

In 1767 the first general regulations for the whole State were adopted, providing for the licensing of physicians and surgeons. By this act the chancellor, a judge of the Supreme Court or Common Pleas, or a master in Chancery, was authorized to license physicians and surgeons to practice on receiving evidence of their having studied two years.

In April, 1801, this act was revised (with many alterations), and was subsequently amended in 1803, 1806, 1818, 1819, 1827, and 1830.

The act of 1806 provided that any person who should commence practice after the first day of September, then next, without being duly licensed, should for ever thereafter

be disqualified from collecting any debt or debts incurred by such practice. It further made the unauthorized practice of physic and surgery a misdemeanor, punishable by fine or imprisonment, or both. These provisions were repeated in the revised law of 1813.

In April, 1813, an act was passed incorporating medical societies throughout the State, and providing for their organization and defining their powers.

Afterward (1827) the powers and duties of medical societies were more clearly defined, and in April, 1830, an act was passed repealing the clause of the act of 1806, above referred to, and the unauthorized practice of physic and surgery was punished by fine only, instead of by fine or imprisonment, or by both, as provided by the laws of 1806.

The second section of this act is as follows: "Every person not authorized by law who shall practice physic or surgery within this State shall, for every offense of which he may be duly convicted, forfeit and pay a sum not exceeding twenty-five dollars, to be recovered, with cost of suit, before any justice of the peace of the county where such penalty shall be incurred, by any person who will prosecute for the same; but the provisions of this section shall not be deemed, and taken to extend to, or debar any person from using or applying for the benefit of any sick person any roots, barks, or herbs the growth or produce of the United States."

The offense, therefore, of practicing without license was changed from that of a misdemeanor, punishable by fine or imprisonment, or both, to one punishable simply by fine. The last clause of this act is worthy of notice, as it was the first occasion on which any mention was made of particular remedies. This act allowed the sale of herbs, roots, and barks produced in the United States for the benefit of any sick person, thus legalizing quackery.

It would seem that the legalization of quackery by this statute was found to work injury, as, in 1834, this act was amended so that only such persons as should, without fee or reward, use or apply roots, barks, or herbs the product of the United States, were exempted from the penalty of the act of 1830. The next year it was deemed advisable to strike out the exemption clause and thus revive the law of 1830, by which the unauthorized practice of physic or surgery was punished by a fine. Some years then elapsed during which the laws above mentioned were in force, and no material alteration or change was effected under these laws. All physicians and surgeons were required to be duly licensed.

By an act passed May 6, 1844, the law of 1830 was repealed, and it was enacted:

SECTION 3. No person shall be liable to any criminal prosecution or indictment for practicing physic or surgery without license, except in case of malpractice, gross ignorance, or immoral conduct in such practice.

SEC. 4. All and every person, not being a licensed physician, who shall practice, or attempt to practice, physic or surgery, or who shall prescribe for or administer medicines or specifics to or for the sick, shall be liable for damages in case of malpractice as if such persons were duly licensed to practice physic or surgery.

SEC. 5. Any person, not being a licensed physician, who shall

* The oath varies somewhat in different States, but is essentially the same in all. The following is the form in this State:

"You do solemnly swear to support the Constitution of the United States and the Constitution of the State of New York, and to faithfully perform the duties of an attorney and counselor-at-law in the several courts throughout this State to the best of your ability, so help you God."

practice, or profess to practice, physic or surgery, or shall prescribe medicines or specifics for the sick, and shall, in any court having cognizance thereof, be convicted of gross ignorance, malpractice, or immoral conduct, shall be deemed guilty of a misdemeanor, and liable to a fine of not less than fifty dollars nor not exceeding one hundred dollars, or imprisonment in the county jail not less than one month nor exceeding twelve months, or both, in the discretion of the Court.

Thus, there was no longer any occasion for a license, and any person was permitted to practice medicine or surgery, being only responsible for gross ignorance, malpractice, or immoral conduct in such practice.

This act did not establish any standard of knowledge or fitness to practice, and, as it failed to define what degree of ignorance constituted grossness, it seems that this provision was almost useless; examinations and degrees were no longer necessary, and, consequently, any person who chose could not only practice, but could collect his fees for services on *quantum meruit*, or under a special agreement.

All the attempt that was made to place a check upon those persons who chose to practice, whether qualified or not, or who were vicious in their habits, was made in Second Revised Statutes, whereby it was declared to be a misdemeanor for any person, while in a state of intoxication, to administer any drug or poison by which the life of the patient was endangered; and, if death should ensue from improper treatment of a patient while in such state of intoxication, the person administering was liable for manslaughter in the third degree; that is, to imprisonment in the State prison for not less than two nor more than four years.

For a period of twenty years this seems to have been the only requirement of the law, and during this time various efforts were made to induce legislation on this important topic. No action was taken by the Commonwealth until May 11, 1874, when an act was passed regulating the practice of physic and surgery throughout the State. The passage of this act was secured through the joint efforts of the various medical societies throughout the State, and through petitions to the Legislature, signed by medical men, showing that the profession of physic and surgery was brought into disrepute by the number of men who were practicing without the required possession of a medical education.

The law is as follows:

ACT TO REGULATE THE PRACTICE OF MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

Chapter 436.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every practitioner of medicine or surgery in this State, excepting licentiates or graduates of some medical society or chartered school, shall be required, and they are hereby commanded, to obtain a certificate from the censors of some one of the several medical societies of this State, either from the county, district, or State society: which certificate shall set forth that said censors have found the person to whom it was issued qualified to practice all of the branches of the medical art mentioned in it. And such certificate must be recorded in a book provided and kept for the purpose by the county clerk of each county in the State.

SEC. 2. The censors of each medical society aforesaid shall notify all practitioners of medicine and surgery of the terms and requirements of this act, and shall request such persons, so notified, to comply with those requirements within thirty days after such notification; and if such persons shall not, within the time specified in the notice, or within such further time as may be allowed by special arrangement with said censors, not exceeding ninety days, comply with the requirement herein made, of physicians or surgeons, as the case may be, such persons shall thereafter be subject to all the provisions and penalties prescribed by this act for any violation of the same, and the president of the society making such request shall, and he is hereby required to, at once commence the proceedings authorized by this act against such person.

SEC. 3. It is hereby declared a misdemeanor for any person to practice medicine or surgery in this State unless authorized so to do by a license or diploma from some chartered school, State board of medical examiners, or medical society, or who shall practice under cover of a medical diploma illegally obtained; and any person found guilty of such misdemeanor shall, for the first offense, be fined not less than fifty nor more than two hundred dollars. For any subsequent offense, not less than one hundred nor more than five hundred dollars, or by imprisonment not less than thirty days, or by both imprisonment and fine; and all such fines shall go into the county treasury of the county bringing such action.

PASSED May 11, 1874.

The law of 1874 continued without change until 1880, when the following act was passed by this State:

AN ACT TO REGULATE THE PRACTICE OF MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. A person shall not practice physic or surgery within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is hereafter authorized so to do as prescribed by chapter seven hundred and forty-six of the laws of eighteen hundred and seventy-two, or by subsequent sections of this act.

SEC. 2. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of October, eighteen hundred and eighty, and every person hereafter duly authorized to practice physic and surgery shall, before commencing to practice, register in the clerk's office of the county where he is practicing, or intends to commence the practice of physic and surgery, in a book to be kept by said clerk, his name, residence, and place of birth, together with his authority for so practicing physic and surgery as prescribed in this act. The person so registering shall subscribe and verify, by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which, if willfully false, shall subject the affiant to conviction and punishment for perjury. The county clerk to receive a fee of twenty-five cents for such registration, to be paid by the person so registering.

SEC. 3. A person who violates either of the two preceding sections of this act, or who shall practice physic or surgery under cover of a diploma illegally obtained, shall be deemed to be guilty of a misdemeanor, and, on conviction, shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for the first offense, and for each subsequent offense

by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment for not less than thirty nor more than ninety days, or both. The fine, when collected, shall be paid, the one half to the person or corporation making the complaint, the other half into the county treasury.

SEC. 4. A person coming to the State from without the State may be licensed to practice physic and surgery, or either, within the State in the following manner: If he has a diploma conferring upon him the degree of doctor of medicine, issued by an incorporated university, medical college, or medical school without the State, he shall exhibit the same to the faculty of some incorporated medical college or medical school of this State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician or surgeon as said faculty may require. If his diploma and qualifications are approved by them, then they shall indorse said diploma, which shall make it, for the purpose of his license to practice medicine and surgery within this State, the same as if issued by them. The applicant shall pay to the dean of said faculty the sum of twenty dollars for such examination and indorsement. This indorsed diploma shall authorize him to practice physic and surgery within the State upon his complying with the provisions of section two of this act.

SEC. 5. The degree of doctor of medicine, lawfully conferred by any incorporated medical college or university in this State, shall be a license to practice physic and surgery within the State after the person to whom it is granted shall have complied with section two of this act.

SEC. 6. Nothing in this act shall apply to commissioned medical officers of the United States army or navy, or of the United States Marine-Hospital service. Nor shall it apply to any person who has practiced medicine and surgery for ten years last past, and who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this State, and who shall graduate from and receive a diploma within two years from the passage of this act.

SEC. 7. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

PASSED May 29, 1880.

The State Medical Society.

Medical societies were first established in this State in 1806, when an act was passed incorporating a society under the name of the Medical Society of the State of New York. In 1813 a general act was passed, entitled "An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State."

The powers and duties of the Medical Society of the State were also defined, and the society was made up of members selected from the State at large. The State was divided into four great districts, and the members from each district into four classes, one class to go out of office annually. At their annual meeting they were permitted to elect permanent members by ballot, provided no more than two such members should be elected in any one year. These permanent members were to be entitled to all the privileges of members.

This was amended in 1845 so that the number allowed to be elected permanent members was increased to two from each senatorial district. This society was originally composed only of delegates from the various county medical societies, but in April, 1818, the incorporated medical colleges of the State were each allowed one delegate to repre-

sent them in the society, and these delegates were declared to be entitled to all the privileges and subject to the same regulations as those from the county medical societies. Subsequently the hospitals were each allowed to send one, and the New York Academy of Medicine five delegates.

The Governor and Lieutenant-Governor of the State, the judges of the higher courts during their term of office, all members of the Legislature who were physicians, and all former delegates to the society, were to be *ex-officio* honorary members. They were to have the privilege of a seat at the meetings and of taking part in the discussions, but they could not vote or be eligible to any office. The society is now composed of delegates, permanent members, and honorary members.

Each county medical society is entitled to send as many delegates as there are members of Assembly from the county in which the society is situated.

The term of office of delegates is four years, and, as nearly as possible, one fourth of the whole number is annually elected.

The society is allowed to hold property, both real and personal, not to exceed the sum of five thousand dollars. It is empowered to make such by-laws and regulations relating to its affairs, concerns, and property—relative to the admission and expulsion of members—relative to donations or contributions—as a majority of the members at their annual meeting shall think fit and proper; provided that such by-laws, rules, and regulations be *not contrary to, nor inconsistent with, the Constitution and Laws of this State or the United States.*

The authority derived from Section 9 of the act of 1813, whereby it was empowered to examine students who should present themselves for that purpose, and give diplomas under the hand of the president and seal of the society, thereby authorizing them to practice medicine or surgery, or both, was repealed by the act of May 29, 1880. It has a general supervisory jurisdiction over the various county medical societies, and these are required to file copies of their by-laws with its secretary, to be submitted for examination.

Any member of a county society who shall feel aggrieved at the action of such society in enforcing discipline among its members, or any applicant who shall have been refused a certificate by the censors of such society, shall have the right of appeal to this society.

If any county medical society shall neglect to perform any of the acts required to be done by it by the laws of this State, or shall do acts which may be derogatory to the honor of the medical profession, or shall oppose or neglect to comply with the by-laws of this society, it shall be admonished; and, if it is deemed necessary for the public good that its corporate rights should be for a time suspended, it is the duty of this society to apply to the Legislature for such purpose.

(To be continued.)

THE BOTHRIOCEPHALUS LATUS.—M. Balbiani, professor of comparative embryology in the College of France, requests physicians to send him specimens of the rings or the ova of this parasite.

PUERPERAL FEVER:

AN OUTLINE OF ITS NATURE, MANIFESTATIONS, AND MANAGEMENT.*

BY EDWARD L. PARTRIDGE, M. D.,

PROFESSOR OF OBSTETRICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

PUERPERAL fever is a term of vague meaning, a relic of the views of earlier days, when it was believed that certain serious and fatal illnesses which sometimes follow parturition depended upon a special, zymotic poison. At the present time we are able to classify the various affections, which were formerly included under the general name, under more appropriate titles, with a clear understanding of their nature and manifestations, though some minor points in pathology are still unsettled. For convenience we may adopt that classification of Spiegelberg which is chosen by Lusk in his chapters which contain one of the most clear considerations of the subject available to the English-reading student. The febrile conditions of the lying-in period may be studied as follows:

1. Inflammation of the genital mucous membrane, endocervicitis and endometritis.

a, superficial; *b*, ulcerative.

2. Inflammation of the uterine parenchyma and of the subserous and pelvic cellular tissue.

a, exudation circumscribed; *b*, phlegmonous, diffused, with lymphangitis and pyæmia (lymphatic form of peritonitis).

3. Inflammation of the peritonæum covering the uterus and its appendages. Pelvic peritonitis and diffused peritonitis.

4. Phlebitis uterina and para-uterina, with formation of thrombi, embolism, and pyæmia.

5. Pure septicæmia—putrid absorption.

A practical study of the clinical history and pathology of these affections as they present themselves in the puerperal patient leads to the conviction that there is in the vast majority of cases an underlying septic element in their causation. In a small proportion of cases the febrile condition depends in the outset upon some one or more of these local conditions, there being no septic poisoning until a later period, when the peculiarities of the puerperal patient favor and bring it about. We meet, also, a few rare instances of these conditions in which we may believe that we have simply the manifestations of local affection from beginning to end. The truth of this would be questioned by some, however, who would regard such cases as presenting the septic element, but in very mild form. Yet I can not believe that the woman recently delivered may not suffer from cellulitis or peritonitis, as well as that these diseases may arise unconnected with child bearing or septic infection. In almost every instance, however, in which we have full facilities for clinical and pathological examination, even when organs remote from the parturient tract are the seat of lesions which have caused the fatal result, we are able to discover the in-

dications of the absorption of septic poison at some situation in the genital organs, and the progression of this poison to and into the general circulation—indications which, in the light of recent and accepted views upon septicæmia as a disease, are unmistakable.

The facilities for the introduction and development of septic poison in the lying-in woman are many, while the disease itself has inherent capability of development of peculiar intensity. Following parturition we have always the placental site, and, in many cases, lacerations of the cervix, vagina, and perinæum. If to these surfaces there is the contact of septic material, its absorption is extremely likely to occur. Prolonged contact or bathing of wounds with fluids containing this poison is much more likely to produce septicæmia—and that too of serious character—than contact for a short time, and the anatomical arrangement is such that we find retention of fluids in contact with these absorbing surfaces to be an easy thing. Until a wound is in a healthy, granulating, or a sealed condition, there is increased danger of septic absorption. In all puerperal wounds of the genital tract, their production by pressure, laceration, and bruising causes them to occupy a number of days before reaching a healthy condition of repair. The placental site, too, affords easy ingress to the poison, owing to the numerous large and often patulous uterine sinuses.

Septic material may be brought in contact with the placental site and with wounds of the vagina in two principal ways, and we may divide our cases, therefore, into *auto-genetic* and *hetero-genetic*.

Auto-genetic cases are those in which the septic poison originates with the individual who is sick. They are produced by decomposition of blood, fragments of secundines, inflammatory products, and sloughing tissues which are in close proximity to surfaces capable of septic absorption.

Hetero-genetic cases, or those in which the poison is supplied from other sources than the patient herself, arise from exposure to atmosphere containing emanations from patients suffering from septicæmia, erysipelas, scarlatina, and diphtheria, or from direct contact and inoculation with secretions from such patients—other media than the atmosphere being carriers of the poison. Decomposing animal tissues, pus, and blood also develop the virus of the disease.

The introduction of the poison may be by unclean instruments of all kinds, by unclean hands, or through the air of the sick room poisoned by any of the agents already mentioned.

Nature and Mode of Action of the Septic Poison.—Many and interesting are the studies upon these points, and it would be improper to omit some statement of the more advanced views of pathologists with reference to sepsis. There is so much, however, that is and must be speculative that it seems wise to exercise some conservatism and not too hastily to accept these views, however ingenious they may be. The power of self-increase of the poison, until from a small amount of the putrid fluid there is extensive production of the contagious principle throughout the organism, has led to the close scrutiny of the component parts of such fluid, and we have learned that there are universally present certain organisms, variably known as bacteria or micrococci.

* Read before the Obstetrical Section of the New York Academy of Medicine, December 27, 1883.

These are regarded as the *contagious principle* by many observers, and it is claimed that they enter the circulation through lesions of the capillaries, veins, and lymphatics, and undergo self-multiplication. The white blood-corpuscles are claimed to be the carriers and disseminators of the micrococci. It is further known that in cases of septicæmia these organisms are to be found at the presumed site of inoculation, along the lines of diffusion of the septic poison, in the blood itself, at the seat of the puerperal inflammations of distant organs, as well as in the organs which perform duties of elimination. Accepting this view, rather than that of an essential, zymotic poison, affords ready explanation of the *multiform* lesions of puerperal fever—this variation of lesion being chiefly due to the varying grades and extent of lymphatic or vascular permeation. Another reasonable thought is that there may be variation in the quality and kind of this microscopic poison producing variety of lesion. If, as Lusk has aptly suggested, our best instruments fail to enable us to distinguish the ovum which is to produce a mouse from one that will produce a tiger, though the ovum is at least one hundred times larger than the micrococcus, is it not possible that these septic organisms are not always identical, though they have monotonous appearance of form? This thought is in accord with views expressed by students of the subject. It can not be doubted that these microspores play some important part in the development of septicæmia, though certain conservative observers are yet unwilling to give them an essential, ætiological position, preferring to regard them as one of the results rather than the cause of the affection. Returning to the classification of Spiegelberg, we have to consider, first,

ENDOCOLPITIS AND ENDOMETRITIS.—The simpler forms of these conditions are commonly produced by prolonged or difficult labor, in which the genital tract sustains unusual pressure and irritation from contact with the child. The vagina has superficial erosions and ulcers, giving rise to *considerable purulent and sanguinolent discharge*, exuberant granulations being often found there and on the cervix. This discharge may be *variable in amount, and offensive* at times. The *labia are swollen*, and there are *pain, tenderness, and heat* in the genital region. The *uterine cavity* affords discharge containing some *pus and blood*; the *uterus* remains *large and flabby*, with some *œdema of the cervix*. *Mild traumatic fever* continues for a few days, until healthy repair is established.

Another form of endocolpitis and endometritis, known as *ulcerative, diphtheritic, or septic*, is much more serious. Here we find in the lining of the genital tract *deep and virulent extension of the ulceration* until in some cases the deeper muscular structures are extensively laid bare. The *ulcers* have a *grayish surface*, which—in hospital cases chiefly, sometimes elsewhere—has a membranous character not differing essentially from that of diphtheria, fibrinous fibrillæ, blood globules, and micrococci being present. The *discharge* is *very offensive, brownish and sero-purulent*, containing *fragments of necrosed tissue*. These cases may terminate in general septic invasion, or, more commonly, after a febrile condition of a week or more, the ulcers take on a more healthy character and recovery takes place. The process of healing

should be watched in order that *atresia vaginae* may not result from agglutination of opposed ulcers.

METRITIS.—When the endometrium is inflamed, the subjacent uterine structure participates to a greater or less extent in the process. Instances in which the muscular and connective tissues of the uterus are extensively involved are known under the name of metritis, which, as a disease, is never unassociated with some of the other puerperal lesions. *Originating* sometimes from *traumatic* and sometimes from *septic* causes, it occasionally happens that there are not only molecular, but also *necrotic changes*, until a considerable portion of the structure of the uterus is lost. The earlier condition is one of *œdematous infiltration* of muscular and connective tissue, and the *abundant lymphatic network* of the uterus takes up active morbid action. *Collections of pus and micrococci* often form in parts of the uterus. The inflammation usually extends to adjacent structures, and blood-poisoning often occurs. The *febrile disturbance* in metritis is of *higher grade* and more prolonged than in endocolpitis and endometritis. *Pain* is present, with *offensive, purulent lochia*.

PARAMETRITIS (*pelvic cellulitis*) is the *most common* of the puerperal inflammations, and may be of non-septic or of septic character. In the *former case*, the exudation, which may be *localized or general*, is of sero-lymph nature, and the febrile disturbance is simply symptomatic of the inflammatory action; temperature ranging from 101° to 103°; pulse 92 to 120. In the *septic form*, there is an *œdematous infiltration*, local or general, in the cellular tissue surrounding the uterus. Micrococci are present in it, and the morbid process can usually be traced from a point or points of inoculation in the uterus along the lymphatics, which, as well as the sinuses, generally contain pus. The febrile action is higher than in the non-septic variety (temperature 103° to 105°), and there is greater constitutional depression, as indicated by feeble and rapid pulse (130 to 140), profuse sweats, gastro-intestinal irritability, and nervous prostration.

The *local indications* of parametritis are *pain and tenderness*, appreciated by supra-pubic and vaginal examination, usually more marked toward one broad ligament than toward the other. There may be *diminished, or increased and offensive lochia*. Any attempt to examine regarding *mobility* of the uterus is *very painful*. *Urination* is *slow and painful*. If the exudation is general, the examining finger obtains a *sensation of fullness and boggyiness*. If, as often happens, the affection is unilateral, there will be an appreciable, *firm, tender swelling* of circumscribed area. This exudation reaches its greatest extent about the end of the second week. There may be sufficient deposit to be recognizable in the iliac region. Cases may terminate in *resolution*, the inflammatory mass becoming less tender and smaller, gradually undergoing absorption. *Suppuration* may occur, the case be much protracted, and abscesses of considerable size may spontaneously discharge in the iliac region, vagina, rectum, or bladder. In all cases we are liable at any time to have *septicæmia* and *pyæmia* as grave and sometimes fatal complications.

PERITRITIS (*pelvic peritonitis*) is inflammation of that part of the peritoneum which covers the pelvic viscera. It

is often associated with parametritis, owing to proximity of structure, and presents somewhat similar symptoms, though there are certain points of difference in the two diseases. There may be moderate exudation only, sufficient to impair the mobility of the uterus or produce agglutination of surrounding viscera. Occasionally the exudation is abundant, leading to a swelling in the iliac fossa which may become as large as a good-sized orange, resembling that of cellulitis, though situated at a higher level, and less liable to suppuration. When of septic character, the lines of diffusion from the site of inoculation are apparent on autopsy, the exudation is purulent with presence of small subperitoneal abscesses; phlebitis and lymphangitis are present, and the ovaries are commonly inflamed and softened.

Symptoms are fever, pain, tenderness, and tympanites in the hypogastric region, with absence of marked vaginal signs of cellulitis, it being remembered, however, that the conditions are often associated. There may be extension from pelvic to general peritonitis; or, the pelvic peritoneal inflammation being secondary to septicæmia, the constitutional disorder may be more marked than the local signs.

GENERAL PERITONITIS is common as a puerperal affection, there being two principal varieties. One form arises as a result of *septicæmia*, there having usually occurred metritis, cellulitis, or pelvic peritonitis, the lymphatics being chiefly engaged in diffusing the poison (peritonitis lymphatica). Another form is primary, or an extension of the pelvic variety, there having been no—apparent, at least—preceding septic absorption. In the *septic* form, the pain and tenderness which one expects to attend general inflammation of the peritoneum are wholly secondary to the prostration of vital powers due to the blood-poisoning. The abdominal cavity will contain fluid, sero-purulent exudation, greenish or brown, and offensive. The intestinal walls are distended, and after death will be found softened and readily torn. The disease comes on insidiously, sometimes no pain being present of sufficient intensity to require opiates. Similar exudation is often found in the pleura and pericardium, associated with septic peritonitis. Loose, diarrhæal movements are not uncommon. The most prominent sign on which to base a diagnosis will be marked, persistent abdominal distension, there being indications of septicæmia. There may be no marked septic lesions in the uterus and its appendages.

General peritonitis, when its septic origin is absent or doubtful, affords abundant lymph exudation with some pus. The abdominal organs become agglutinated. The febrile movement is attended by high temperature, severe pain and inflammatory excitement, followed usually by prostration. Vomiting, delirium, tympanites, and constipation are common, the latter often followed by diarrhæa. A severe chill is sometimes the initial symptom of the attack.

SEPTICÆMIA is a disease of protean character. It may be of such virulent type that blood dissolution is the only lesion, death occurring before the development of any septic inflammation. In such cases all the organs are softened, and the blood shows little or no disposition to post-mortem coagulation. The temperature rapidly rises to a high degree (upward of 106°), extreme nervous prostration occurs,

and death may result in from twenty-four to forty-eight hours. If the disease takes a less intense course, though of the same general character, the temperature may continue between 104° and 106° for several days; vomiting, delirium, and sometimes diarrhæa will be present, few patients recovering, the duration of the attack being less than a week.

In other forms of septicæmia the blood-poisoning is not so virulently felt, though the results may be as serious. The diffusion of the poison is more gradual, its effects are less striking, and the patient may succumb after many weeks of suffering, or finally recover. When purulent infection occurs, the symptoms are clearly demonstrable after the second week. *Chills and profuse sweats recur, the temperature rises and falls*, though never reaching normal, the stomach is irritable, the skin becomes yellow, tongue coated and disposed to be dry, low delirium and hallucinations are at times present, the mental faculties are dull, and the respiration is shallow and hastened. There will be present, also, the indications of some one or more of the local, septic inflammations which have already been described. Peritonitis is present in fewer than half the cases. Metastatic abscesses, as the result of the blood changes, or of infected emboli, are common in the lungs, kidneys, liver, and about the joints. Hæmatogenous icterus may occur, and is to be regarded as a grave symptom.

PREVENTION AND TREATMENT OF PUERPERAL FEVER.—We encounter more cases of puerperal fever in hospital than in private practice, and it is in the former that prophylaxis becomes a question of great moment. An atmosphere uncontaminated by germs such as are developed by surgical cases, and those of zymotic poisoning, as well as by previous cases of puerperal fever, is necessary to the safety of lying-in patients. Inasmuch as the poison can be conveyed from place to place, physician, nurse, laundress, and visitors to the sick room should exercise great care lest they be the bearers. Bedding, clothing of attendants, hair and whiskers, instruments, hands, and especially finger-nails, are the media by which the poison may be conveyed to the patient. In prolonged labors it is necessary—in all cases proper—to employ disinfectant vaginal injections during labor. After labor, and in advance of septic indications, their not too frequent but judicious use is called for. The proper management of the third stage of labor, looking to the complete expulsion of secundines and clots, and to permanent uterine contraction, is important in the prevention of both auto- and hetero-inoculation.

In puerperal disorders which, in their inception, are not complicated by septicæmia, treatment does not differ essentially from that suited to cases of the same nature unconnected with parturition, except that special care is necessary, on account of the tendencies of lying-in women, to use the *disinfectant douche*, and to promote escape of pus from mucous surfaces and from abscess cavities. In cases of septicæmia, by the same means we avoid accumulation of the poison germs and reinfection. When the point of inoculation is in the uterine cavity, or when we know that this cavity contains decomposing fluid, warm and carbolic intra-uterine injections should be repeated every few hours, and they will usually cause prompt fall of temperature. Care is necessary

that the injections be made slowly, and the liquid be freely allowed to escape so as to avoid dangerous uterine distension, extension of the fluid into the peritoneal cavity, shock, and retention of poisonous material.

Sloughing tissues should be removed as early as possible, and contiguous, exposed surfaces should be covered with *iodoform*, in powder form or suspended in glycerin, in a ten-per-cent. mixture, or touched with *carbolic acid*, or with *tincture of iodine*.

In local or general parametritis the *early use of leeches* may lessen the extent of inflammation. When exudation is present, *vaginal injections of hot water* (110° F.) hastens its absorption, and external application of heat, as by *poultices*, is proper when the situation of the pelvic inflammation makes it practicable. Pelvic abscesses should be treated by *aspiration* or *incision*. In peritonitis, light warm *poultices of bran or flaxseed* are advisable.

Medicinal treatment should consist of *opiates* to relieve pain, *quinine*, judiciously, for its antipyretic and supporting effect, and *stimulants* when indicated. *Food* should be concentrated, nutritious, and easy of digestion. The importance of maintaining *unimpaired digestion* can not be over-estimated.

General blood-letting at any stage of septicæmia is improper. *Arterial sedatives*, as *aconite* or *veratrum viride*, may be useful in certain cases characterized by *circulatory excitement*, yet their *depressing effect* is so easily reached, and such close observation during their use is necessary, that great caution should be displayed with them, lest they be administered too freely or in unsuitable cases.

Salicylic acid, as well as quinine, given in large doses, may reduce temperature, and the wet pack, with careful avoidance of its depressing effect, is similarly suitable.

Tympanites, when excessive, causes pain and a depressing, reflex influence on the nervous system.

Stimulating enemata containing *asafoetida* and *turpentine*, or even *abdominal puncture* of the intestines by *fine aspirator needles*, will afford some relief.

A PLEA AGAINST PROPHYLACTIC INJECTIONS AFTER NORMAL LABOR.

By SIMON BARUCH, M.D.,
NEW YORK.

At this juncture it would indicate a certain degree of temerity to raise a voice in opposition to the doctrines now promulgated in this country in favor of antiseptic injections for purposes of prophylaxis in labor and childbed.

But when a man has attended nearly nine hundred cases of labor, in which almost every complication has been encountered, with the result of only one death from a fever process, and without resorting, until very recently, to any prophylactic measures other than strict cleanliness, he may be pardoned for regarding the present campaign against micrococci of possible destructive tendencies within the vagina and uterus as indefensible and somewhat unreasonable. What surgeons owe to Englishmen, obstetricians owe

to the Germans for antiseptic management. The energetic antiseptic treatment of wounds, introduced by the corypheus of modern wound management, Lister, was rapidly adopted, in a more or less modified form, in his own country and followed in other countries. But the application of Lister's principles and practice to obstetrics was enthusiastically taken up by the German gynecologists, and then by their obstetricians. It was soon ascertained that when septic processes were threatened within the genital passages after labor, systematic cleansing, with carbolized lotions, of the surfaces furnishing the material for these processes offered the most astounding results. No wonder, then, that these magnificent therapeutic successes were heralded abroad and rapidly adopted by general practitioners. If septic processes, which formerly destroyed many lives (in public institutions chiefly), may thus be easily shorn of their danger, why not nip them in the bud ere they assume serious proportions? This reasoning, too, was successfully applied when all serious febrile processes after labor were at once treated by vaginal or uterine antiseptic irrigation. And now the question naturally arose, Why may not Listerism be closely imitated by *prophylactic irrigations* of the genital tract? In this direction the strides have been rapid in Germany, and now unfortunately the practice is being popularized in other countries. In our country Dr. W. G. Wylie read a valuable paper last spring before the County Medical Society, becoming thus the active apostle of complete Listerism (including spray) in our city. More recently Dr. T. G. Thomas has embodied his views in an able paper read before the Academy of Medicine, and indorsed by several eminent gentlemen with an alacrity which appears surprising.

While he justly condemns prophylactic intra-uterine irrigation, he dwells, with his usual ability and impressiveness, upon the necessity of the view that "every woman who is to bring forth is to be treated as though she were to go through a capital operation."

Brennecke, in Germany, published some months ago a "Mahnungsruf" to midwives, in which he advocates the strictest antiseptic management of labor and childbed with much earnestness, and, in his defense against Dr. Abegg, who justly attacked his view, he concludes by saying that he "deems it criminal to neglect antiseptics in the widest sense in all cases of labor." *Reaction against active antiseptic irrigation after labor has already set in abroad*. Intra-uterine irrigations for prophylaxis are being rapidly abandoned, and I am glad to find Dr. Thomas energetically proscribing them. Hofmaier reports that in Schroeder's* clinic 509 normal labor cases were treated experimentally. Of these, 249 were not irrigated, with a percentage of 8 febrile cases; 260 were irrigated, with a percentage of 16.1 cases of illness. He is supported by Breisky,† Fehling,‡ Max Runge, and others, who report unfavorable results. But I can not subscribe to the necessity of resorting to *vaginal antiseptic injections* even for purposes of prophylaxis.

My own experience has, perhaps, been singular, but may

* "Zeitschrift für Geb. u. Gynäkol.," Bd. v, p. 174.

† "Zeitschr. für Heilkunde," Bd. i, Prag, 1880.

‡ "Jahresbericht der k. Landeshebammschule zu Stuttgart im Jahre 1879," p. 42.

be worthy of record here. In common with my enthusiastic friends, and especially strengthened in my then wavering temper by Dr. Wylie's paper, I adopted prophylactic vaginal injections last spring, ordering a three-per-cent. carbolyzed lotion twice daily in all cases of childbed. The result was unfortunate. While I formerly had rarely encountered severe febrile processes after labor, I at once found myself favored in this direction. Six cases of severe fever, of undoubted septic origin, occurring from the fifth to the ninth day, rewarded my innovation. Two cases had been attended in labor by another gentleman, who had ordered vaginal antiseptic injections after labor. These came under my treatment on the fourth and sixth day, owing to my friend's illness. There were three primipare in the total number, and the localities were quite diverse—one case in West 161st Street, one in West 140th Street (neat cottage standing alone), one in West 158th Street, one in East 74th Street, one in West Fifty-fourth Street, and one in West Fifty-fifth Street. These cases were cared for by different nurses of average intelligence, claiming experience in vaginal injections. The fever was of severe type in four of these cases, but was controlled by a mercurial purge and large doses of quinine. I am confident that the trouble was due to disturbance of the sensitive and, in the primipare, surely wounded genital tract. Immediate perineal suture was resorted to in three of the cases, and the tear had healed and stitches had been removed before the advent of fever. That the frequent and probably clumsy introduction of the syringe-point may produce fever is emphasized in a recent paper by Kehrer,* read before the Fifty-sixth Congress of German Naturalists and Physicians at Freiburg. Although he is an enthusiastic advocate of prophylactic bichloride-of-mercury irrigations, he insists that the attendants must be well practiced, to prevent tearing recent wounds with the syringe-point, and possible inoculation with infecting germs. He saw cases in which fever did not fall despite the injections, but fell when they were omitted.

Dr. Thomas and Dr. Hunter also insist upon the vital importance of competent nurses, supervised by the physician.

That the average woman is unable to obtain skillful nursing can not be gainsaid. It is difficult to introduce painlessly the syringe-point within a tender vagina without exposing the parts; particles of infecting material may be carried to the frequently torn and spongy cervix; thrombi, which seal open veins, may be displaced, and thus admission gained for septic matter; the os being patulous, occasional entrance of the stream of water into the uterus can not be avoided. Recent adhesions of wounded surfaces may be disturbed. (See cases reported by Fischel, "Archiv für Gynäkolog." Bd. xx, Heft 1, p. 36, etc., in Breisky's "Klinik.") These and other objections, which will present themselves to the thoughtful practical physician, impel me to avoid all injections for prophylaxis and to rely upon that best of all antiseptics—simple cleanliness on the part of physician and nurse before, during, and after labor—in all cases. The fourth, fifth, and sixth, and even the seventh clauses of Dr. Thomas's "Prophylactic Measures" are admirable, and can not be too strongly insisted upon, although

it would seem that every modern obstetrician should require no injunctions on these points.

The experience of many practitioners will doubtless coincide with mine in this respect; I imagine that it would be difficult to persuade men who have seen a large obstetric practice—especially outside of large cities—to adopt the new method of vaginal prophylaxis, when they have enjoyed the immunity from serious febrile sequelæ which I have observed in the practice of others as well as in my own.

With a view to prevent the mischief which is likely to be done by the indiscriminate washing of the vagina after labor, among the younger members of the profession, I raise my voice of warning at this juncture. Guided by the justly eminent gentlemen who advocate antiseptic vaginal prophylaxis, every new-fledged obstetrician, in country and town, will rush to the rescue of "septicaely threatened parturient" women (all), and scorn every one else who does not pursue this practice as an old fogey. The various therapeutic fashions which have flourished since the beginning of medicine bear witness to the probability of this unhappy result. I plead for a pause of reflection, and would urge upon our leading obstetricians to stem the tide ere it be too late; and especially to bear in mind that the vast majority of their students will practice their art in towns and country districts, where pure air, seconded by cleanliness of physician, patient, and nurse, will accomplish more for prophylaxis than the combined forces of all the germ-destroying measures. The idea can not be successfully maintained that there is any similarity between an artificial traumatism and the utero-vaginal surface after labor in the matter of prognosis.

The natural course of an artificial wound is in the direction of kindly healing; this is exemplified in severe fractures (subcutaneous). It has been found, however, that an immense number of traumatisms fail to follow this natural process, and that a large proportion of these failures are due to certain septic processes, due to causes existing without and within the wounded part. Some of our best surgical authorities have arrived at the conviction that this great source of failure and death may be removed by antiseptic management, by Listerism, pure or modified. I yield to no one in acknowledging with a grateful heart that I have lived to labor in this happy surgical era. In gynecology the same conditions exist as in other surgical operations. But, when we come to the utero-vaginal tract after labor, quite another experience confronts us. Here, too, we have a traumatism, not artificially, but naturally induced in a physiological process. But, instead of a large percentage of deaths, as is the case after serious surgical operations (to which Dr. Thomas would liken the case of a woman in labor), we are met with a very small percentage of mortality or failure. The vast majority of puerperal women escape sepsis altogether. The latter is chiefly prevalent in maternity hospitals, and, in late years, since the gospel of cleanliness has been diffused among the profession, these institutions present, in many instances, as good a record as can be found in private practice. I may cite Max Runge's* report from Gusserow's clinic ("Bemerkungen über eine Puerpe-

* "Archiv für Gynäkologie," 1883.

* "Zeitschrift für Geburtsh. u. Gynäkolog.," Bd. v, p. 145.

ralfiebreepidemie in der geburtshilflichen Klinik der Charité"). He says that the prophylactic uterus-irrigations in childbed, which had been introduced experimentally at the beginning of a so-called epidemic of puerperal fever, favored the spread of the septic process. Runge resorts to injections only when evidences of decomposition present themselves. He reports 1,500 cases which were treated expectantly, with a mortality from sepsis of 0.39 per cent., and this result was obtained when puerperal fever was supposed to be epidemic. Fischel* reports the mortality in Breisky's clinic (where irrigations are used only when needed), out of a total of 933 labors, only 0.21 per cent. Fehling† reports that, in 1879, there occurred 415 cases of labor in his institute, of which not one died of puerperal fever, despite the fact that not a single irrigation was resorted to. Hegar ("Discussion of Sublimate Irrigation") orders injections before and after labor, but rarely in childbed, except when the lochia are offensive.

Can I offer a more eloquent plea than the enormous experience of these clinicians, for the "*noli me tangere*" plan, which I now desire to emphasize?

The immense clinical material of the German obstetricians and the precision of their observations by skilled clinical assistants invest their statements with peculiar interest and value. They can not be equaled by the experience of American authorities in this respect. So far as I have been able to ascertain, the only utterance from a regular maternity institution favors the view I have espoused. In the discussion of Dr. Wylie's valuable paper, Dr. Garrigues (surgeon to the Maternity Hospital, Blackwell's Island) says that in hospital practice he had not obtained the results he expected from it (irrigation, etc.) as a prophylactic measure.

As I seem to stand single-handed and alone in opposition to the universal application of prophylactic antiseptic injections in and after labor, I am reassured by being able to fortify myself with the authority of so eminent a man as Breisky. Breisky‡ advocates the abolition of all injections, vaginal as well as uterine, unless there be evidences of decomposition. He maintains that in normal labor Spiegelberg's "*in Ruhe lassen*" of the puerperal genitalia should be the rule. He says that he has not been able to convince himself that the way to a greater and more secure limitation of puerperal mortality is to be found in a specially active prophylaxis, operating by regular injections into the inner genitalia. Although I earnestly oppose antiseptic injections for purposes of prophylaxis, I would enter zealously into the "curative measures" proposed by Dr. Thomas, especially on the first symptoms of a rising temperature attributable to septic or unknown causes.

But even in these cases I would suggest that an over-anxious interference by energetic and frequent uterine irrigation may not be necessary, and should be reserved for the more serious cases. Fortunately, we have in recent literature some valuable contributions to this subject. The discussion of Kehr's* paper on "Sublimate Injections" (in

the Fifty-sixth Congress of German Physicians and Naturalists) demonstrates the superiority of the latter to carbolic lotions, because it is cheaper, odorless, and more soluble. A few cases of mercurialization have occurred in women who had previously passed through a course of mercurial medication, and several cases of urticaria among physicians and attendants are mentioned from handling strong solutions.

An important observation was contributed by Kuestner, who obtained the uterine secretions direct from the organ by means of tubes, and discovered that the micrococci which abounded in them did not disappear promptly after carbolic injections, but always promptly after sublimate injections. It would appear from Bardeleben's experiments that a solution of 1 to 10,000 is sufficiently energetic. Hegar and Kaltenbach favored sublimate injections. Hegar "can not imagine a better antiseptic." But the most important contribution to this subject has been made by Ehrendorfer,* of Spaeth's clinic. He recommends iodoform pencils consisting of 150 grs. of pulverized iodoform, and 15 grs. each of gum arabic and glycerin and pure starch, which are easily soluble and flexible. As it has been demonstrated by Koenig that cases of iodoform intoxication are rare when not more than 10 grammes (150 grains, about) of pure iodoform are applied, there need be no apprehension of poisoning. He uses more frequently only 6 grammes (90 grains). They are applied as follows: After the fetus and secundines have been removed, the uterus is irrigated with a two-per-cent. carbolic lotion, one to two litres being consumed. So soon as the uterus is well contracted, the iodoform pencil is grasped by a disinfected polypus forceps near its middle; it is dipped in carbolic water. Now, one half of the other hand is introduced into the vagina of the woman, whose hips have been previously elevated, so that the index and middle finger lie behind the cervix. The other hand, holding the forceps with grasped iodoform pencil, introduces the latter into the cervix; and, while one finger of the left hand supports its lower end, the forceps is loosened and the pencil is pushed into the uterus as far as possible. The cases in which iodoform was used as an intra-uterine pencil were all abnormal labors, or labors followed by purulent endometritis, etc. He reports in detail twenty-nine cases, case two (2) of which was brought to a successful issue after carbolic intra-uterine injections had failed and had become very irksome because of the patient's somnolence and the extremely sensitive and erysipelatous condition of the external genitalia. Another striking case is one (22) in which, despite continued fever, several deep vaginal ruptures healed under local application of iodoform. Another case (27) presented a gangrenous condition of the vagina; and, again, another case, not reported in the list, presented a remarkable result of healing by iodoform after gangrene had set in.

The cases were nearly all severe, coming frequently during an uncompleted labor, or after a badly conducted one, to the clinic. Despite the unfavorable prospect of these cases, the iodoform pencils were used rarely—only once or twice in many cases during their whole progress.

* "Archiv f. Gynäkologie," Bd. xx, Heft 1. † *Op. cit.*, p. 42.

‡ "Zeitschrift für Heilkunde," Bd. i, 1880.

* "Archiv für Gynäkologie," Bd. xxii, Heft 1.

* "Ueber die Verwendung der Iodoformstäbchen," u. s. w., "Arch. f. Gynäk.," Bd. xxii, Heft 1.

Here, then, we have the perfection of antiseptic management after labor, presenting a maximum of advantage (antiseptis) with a minimum of disadvantage (disturbance).

If, therefore, I should observe after any normal labor a rise of temperature, not attributable to causes unconnected with the local puerperal condition, or even not traceable to any known cause, I would give the patient the benefit of the doubt and begin antiseptic treatment. The same should be resorted to if the lochia present evidences of decomposition, or if a chill or general malaise can not be accounted for. The vagina should first be thoroughly irrigated with a feeble stream of solution of bichloride of mercury, 1 to 2,000. An iodoform suppository should be placed within the vagina. If symptoms do not yield, the vagina should again be irrigated; the syringe being cleaned, the uterine cavity should next be injected. This precaution is necessary to prevent the introduction into the uterus of septic matter from the vagina on the point of the syringe tube. When the uterus has contracted, an iodoform pencil, made according to Ehrendorfer's direction, and containing 90 to 100 grains of pulverized iodoform, should be pushed well into the uterine cavity.

The disinfecting injections and the pencil should be renewed whenever the lochia again become offensive, or, if the temperature continues to rise, each time preceding the pencil by irrigation with a solution of bichloride of mercury, 1 to 2,000, or even weaker. It is important that the solution should not be hot, because a high temperature will constrict the parts for a time, and prevent the local action of the iodoform; a temperature of about 90° is proper. A small bunch of tow or absorbent cotton may now be placed under the genitals to receive the iodoformized lochia. According to Ehrendorfer's experience, an interval of two to four days will elapse ere renewal of the pencil will be required. In conclusion, I would again most earnestly urge a careful consideration of this question of prophylactic injections, and I trust that in the forthcoming discussion at the Academy of Medicine the practice will receive the condemnation it deserves from more able advocates than myself.

Sanctioned as it is by some of our highest and most justly eminent authorities, the use of prophylactic injections in the puerperal period will surely become a general practice, if the subject be not calmly discussed in the light of experience. If I have aroused attention to the danger which threatens the puerperal woman of the future from this practice, I shall be content. Nothing but a strong sense of duty has prompted me to venture to differ from men whose views I have always regarded with respect, from whom I have learned much in the past, and by whom I expect to be guided largely in the future, whenever their teachings do not conflict with the results of experience and common prudence.

158 WEST FIFTY-FOURTH STREET, December 20, 1883.

"OPHTHALMISTS."—The "Medical Times and Gazette" begins an editorial article as follows: "The ophthalmologists, or, as our American cousins would say, the 'ophthalmists,' etc. This is a good specimen of 'Americanisms' of foreign coinage.

Clinical Reports.

NEW YORK HOSPITAL.

CLINICAL REMARKS BY ROBERT F. WEIR, M. D.

Saturday, November 24, 1883.

Catheter Fever.

GENTLEMEN: Some time ago I promised, instead of my usual operations, to devote an hour to the consideration of one or two practical points which could be illustrated by cases in the wards of this hospital, and I avail myself of the opportunity to fulfill that promise to-day. One of the points prominent in my mind relates to urethral or bladder difficulties. You may have seen in some of the medical journals a statement made by Sir Andrew Clark, president of the Clinical Society of London, to the effect that he had had brought to his notice, within the preceding year, five or six cases of what he was pleased to call "catheter fever." He meant by that, that certain elderly men, suffering from some urethral difficulty, had been to a surgeon, who passed a catheter, and that, when they came under his notice, they were affected with chill or fever, or both, the urine was more or less turbid, the mental faculties were impaired, and there were subsultus tendinum and other typhoid symptoms, terminating in death. Sir Andrew put the question to the society, What was the nature of the affection? The question was not then answered, although it was afterward pretty fully responded to by surgeons distinguished in genito-urinary diseases, notably Sir Henry Thompson and Mr. Reginald Harrison.

This is not an unknown disease at all; surgeons are constantly witnessing such ill effects of the introduction of the catheter, particularly in quite elderly people—people who have had trouble with the prostate and variable, incomplete retention of urine for a number of years. You know that, at about the age of fifty-five, enlargement of the prostate occurs, from unknown causes, in about one out of every three men, and, in about one person out of every twelve so affected, more or less retention of urine takes place, so that the patient is unable to empty the bladder completely. The urine which remains undergoes certain changes, and after a time may give rise to inflammation of the bladder. The patient may have to pass his urine a little oftener, particularly at night, and, as time goes by, other changes may take place, involving probably the ureters and kidneys also. For the relief of a certain annoyance of the bladder, or perhaps a complete retention, the patient finally goes to a physician, who introduces a catheter, and finds a considerable amount of residual urine.

What may finally result, after such relief has been afforded with an instrument, is what you see in the fresh specimen which I now show you. This kidney was taken from the body of a man who had a stricture, not very tight, but deep in the canal, which rendered the use of sounds necessary a number of times for its dilatation. On Sunday last, the surgeon who had charge of the patient passed a No. 23 (French) sound, and the next day the patient was seized with a violent chill. As the man had had malarial fever before, the elevation of temperature that took place (to 104° or 105° F.) was supposed to be due to that cause. Then the joints became affected, a cardiac murmur appeared, and, as the bladder symptoms were slight and did not appear sufficient to account for the patient's condition, it was supposed that he was suffering from an ordinary attack of rheumatism. No greater violence had been done in passing the instrument than on former occasions, but the patient, who in the mean time had been brought to the hospital, died yesterday morning, five days after the insertion of the sound. The post-mortem exami-

nation showed that the difficulty was not malarial or ordinary articular rheumatism, but that the symptoms were due to pyæmia, starting, perhaps, from a slight damage done the urethra by the passage of the sound. Either a nervous influence was produced at the time of the dilatation, or the changed condition of the urine poisoned the wound and the system, or, again, an extension of the inflammation may have passed to the bladder, up the ureters to the already diseased kidneys, and thus, to use a homely expression, fat was put into the fire. An acute inflammation was added to a chronic one, and destroyed the patient's life. In the specimen which I show you the disease of the kidney had not yet resulted in apparent abscess, but oftentimes you will find pus cells surrounding the tubules, constituting what is called interstitial suppurative nephritis, or the "surgical kidney." In some cases you will find the kidney presenting bloody areas, points of infarction, of a lighter color in their centers, which would evidently have terminated in abscesses. That condition is present here in a very marked form, and with the microscope many colonies of micrococci are seen; in other words, this is a septic process of the highest degree. Although the specimen is one removed from a young person, who had a strictured urethra, yet such conditions are also met with in the prostatic patient. There are other grades where the inflammation is not so intense, which we sometimes designate as a pyelitis, a condition not always recognized during life, but suspected on failure of the patient's powers, with the secretion of perhaps undue amounts of turbid urine, without other changes.

Under the heads of cystitis, pyelitis, and "surgical kidney," with or without appreciable abscess, may be grouped, clinically, the severer symptoms produceable by the introduction of an instrument into the bladder of an old or elderly man. Now, this "catheter fever" is something which every one of you will run against sooner or later, and what I want to impress upon you is the fact that it is more apt to occur the longer the prostatic trouble has existed. This is a strong reason, in my mind, for teaching elderly men so affected to use the catheter early. Sir Henry Thompson very properly urges the use of the catheter more than he did ten years ago, and yet, in my estimation, he still falls short of the mark, since he waits until the residual urine amounts to eight ounces before resorting to the instrument. I feel that, when as an old man has difficulty in passing his water, with incomplete emptying of the bladder, he should be taught to use the catheter so soon as this is recognized. On the first occasion he may find that its passage causes more or less irritation, perhaps a slight aggravation of his symptoms for three or four days, and he will think that your remedy is worse than the disease. He will argue that this trouble only compels him to get up once a night to urinate, and his water is perfectly clear; why, then, subject him to this annoyance? And you will find a good deal of difficulty in leading your patients to follow your advice; but I can assure you that, if you do so, you will anticipate pathological changes, and save them a good deal of subsequent trouble.

How are you going to avoid this "catheter fever" when you meet with a case of this sort which has continued for five, six, or eight years, or those cases in which it is most common—I mean where the patient is attacked with retention, and is completely unable to pass his water. Brodie and Thompson have taught us that in such a case, when we first introduce the catheter, after the patient has urinated, and find that the bladder contains a large amount of residual urine, we should not withdraw all of it, but leave half or two thirds behind. Now, this is very good advice, but how are you to tell how much is half or two thirds of the residual urine until it is all drawn off? You should do one of two things: either withdraw all the urine, and then do as I shall tell you in a moment, or else stop the flow of urine

when half a pint has escaped, and at each subsequent catheterization draw off a little more. I prefer, however, that you should act in this way: let the man pass what water he can in your presence, then introduce the catheter and empty the bladder, but do not leave the organ in its collapsed, wrinkled-up condition, as some have described it, attributing to this the cystitis that so often occurs; instead of so doing, throw into the bladder a quantity, equal to one third or one half of the urine withdrawn, of a solution of carbolic acid, 1 to 100, or a solution of boric acid, one drachm to the pint, or ordinary hot water, or, what I like above all, a solution of bichloride of mercury, 1 to 5,000. The quantity of the injection is to be diminished gradually until you get the bladder used to its contraction. The patient is also to be kept in the house for a few days, until tolerance of the instrument is fairly established.

In ordinary cases I prefer a rubber catheter, and I first test it, to make sure that it is very flexible and strong. The very supple silk catheter recently devised, like the one I show you,* rivals the rubber one, especially in durability, and answers its purpose admirably, but it is more liable to become contaminated than the rubber one. Before using the catheter, pass a carbolic-acid or corrosive-sublimate solution through it, to guard against the introduction of poisonous matter from without; and, so far as you can manage it, in order to prevent the entrance of air into the deeper urethra, introduce the catheter full of the antiseptic solution, and, on withdrawing it, pinch its end, and let it thus come out full of fluid. Use also iodoformized oil, five grains to the ounce, to grease it with, rather than the carbolized oil, which is inert.

I would speak more at length on this subject, but time will not permit. I hope, at any rate, that you will be led by these remarks to begin catheterization early in cases of enlargement of the prostate causing retention, thus preventing the development of those conditions which, in the older and neglected cases, are liable to result in "catheter fever" when they finally do come under treatment. Finally, remember that, although not absolutely proved, it is so nearly so as to be accepted, it is the septic influence of the catheter that initiates these changes; hence be particular to guard your patient in this direction as far as possible.

(To be concluded.)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Voice, Song, and Speech: a Practical Guide for Singers and Speakers, from the Combined View of the Vocal Surgeon and Voice Trainer. By Lennox Browne, F.R.C.S. Ed., Senior Surgeon to the Central Throat and Ear Hospital, etc., and Emil Behnke, Lecturer on Vocal Physiology, etc. With Numerous Illustrations by Wood-engraving and Photography. New York: G. P. Putnam's Sons, 1884. Pp. xv-322. [Price, \$4.50.]

The Evolution of Morbid Germs: a Contribution to Transcendental Pathology. By Kenneth W. Millikan, B. A. Cantab., M. R. C. S., Fellow of the Medical Society of London. London: H. K. Lewis, 1883. Pp. 107.

Transactions of the Minnesota State Medical Society, 1883. St. Paul, 1883. Pp. 296.

Superinvolution of the Uterus. By Alexander Russell Simpson, M. D., F.R.S.E., etc. [Reprint from the "Edinburgh Medical Journal."]

* Made by Maw, Son & Thompson, of London.

THE
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A Weekly Review of Medicine.

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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JAN. 5, 1884.

PROSECUTIONS OF MEDICAL MEN.

IN so far as suits for malpractice are concerned, and, if we except abortion cases, in so far as criminal charges are founded in matters of medical practice, the annals of the prosecution of medical practitioners may be said to constitute almost an unbroken tale of malicious persecution. It is very much to the credit of Dr. Sayre that for many years past he has exerted himself to ameliorate this state of things by securing the passage of a statute obliging persons to bring suits for malpractice to secure the defendants against pecuniary loss in case of the failure of the suit. Such a provision would, of course, fail to secure against vexation and indirect loss, but it would undoubtedly go far toward checking frivolous prosecutions, and it is therefore very much to be regretted that thus far Dr. Sayre's efforts have proved of no avail. As matters stand now, malice is almost the only thing needed to bring any practitioner at any time into a position where he must feel doubt and anxiety as to how the jury will view the testimony, and a painful certainty of earning a newspaper fame that will prove anything but pleasant.

The law is properly very indulgent in the matter of allowing civil suits to be brought, even when the case seems very slender; but it must be said, to the credit of our prosecuting officers, that they are generally slow to countenance criminal proceedings in the absence of something tangible in the way of evidence to begin with. An instance has lately occurred in Loudon, however, which goes to show that the public prosecutor concerned has ideas somewhat at variance with this cautious way of doing things. Two general practitioners, having performed tracheotomy upon a child suffering from diphtheria, to save it from impending suffocation, had the misfortune to lose their patient, whereupon the father of the child brought a civil suit against them, claiming damages on the ground that a sore throat from which he had suffered was the result of his having sucked the tracheotomy tube, by their direction, to free it from secretions. In that suit the jury disagreed, and a new suit is now in course of trial. Pending this second suit, the mother went before a police justice and swore to an allegation setting forth that the two practitioners' treatment of her child had been improper, and charging them with manslaughter. Simply on the strength of this allegation, and without the slightest medical testimony, the public prosecutor undertook a criminal action in the case. When the case came before a magistrate, however, one medical witness was summoned, but his testimony proved to be of such a nature that, immediately after his cross-examination, the case was dismissed, the magistrate remarking that it was a case of "persecution, not prosecution."

Meantime the two surgeons are still involved in the second suit for damages, and it is, perhaps, to the fact of the additional indignity of the criminal process having been brought against them that they owe an influential movement of sympathy and assistance which has sprung up in their behalf. Although the persecuted surgeons do not seem to be in any way prominent members of the profession, the entire medical body of London is entering heartily into measures that are being taken for their relief, and it is exceedingly gratifying to find that such distinguished physicians and surgeons as Sir William Jenner and Sir James Paget are taking the lead in measures to provide adequate means of defense, and, better than all, in calling the attention of the Government to the need of an arrangement by which the public prosecutor may obtain the assistance of skilled advisers when he is solicited to institute prosecutions of medical practitioners.

THE ÆSTHETICS OF THE STOMACH-PUMP.

THE serenity of the professional sword-swallower, albeit rather the calmness of resignation than of any other state of mind higher in the scale of happiness, is quite as likely to win our admiration as the feat the fellow performs. But sword-swallowing, we must assume, is not usually indulged in as a pastime or as a piece of dissipation, but for money. Looking at the matter in the light of this consideration, we can understand that a gleam of satisfaction should light up the performer's face as he fondly wipes his blunt and polished weapon. Like the Alpine guides, he is cheered by the thought that "it is to eat macaroni." But, surely, there can be no such consoling reflection for him who is condemned to the routine employment of the stomach-douche. We are forced to infer, therefore, that there is some intrinsic quality in the rubber œsophageal tube—some delicate power of titillation—that confers upon its devotee a degree of ecstasy in comparison with which the mere commonplace *bien être* of the sword-swallower sinks into sullenness. At least this must be the case if we may judge from a woodcut that adorns an article on the subject in a recent number of one of our French contemporaries. The cut in question bears evidence, however, of having been furnished by the famous cutler, M. Galante, and may have been got up under his direction with the express purpose of bringing the instrument into fashion. Be this as it may, the face of man seldom wears a look of more exquisite jollity than in the figure referred to.

MINOR PARAGRAPHS.

PURPERAL FEVER AND ABORTION.

ACCORDING to M. Hervieux ("Gaz. hebdomadaire de médecine et de chirurgie," Nov. 9, 1883), out of 16,173 confinements that took place in the Paris Maternité, from the year 1861 to the close of the year 1872, 5,236, or 32.05 per cent., were premature. This may be accounted for, to a certain extent, by the unfavorable physical and moral influences generally affecting the beneficiaries of such institutions, and arising from their condition in life, they being for the most part unmarried women. But some other explanation is required for the fact that from 1861 to 1867 the percentage of abortions at the Maternité varied between 33.98 and 41.50, while from 1868 to 1872 it rose no higher than 27.57

—the lowest point being 18.99—with an evident tendency to decrease toward the end of this period. That is, during the latter term the proportionate number of abortions was less than during the former by over one third. The general causes already adverted to remained in operation throughout; and even when they were greatly aggravated, as in the years 1870 and 1871, the number of abortions continued to diminish. This state of things could not be attributed to meteorological conditions. Writers on veterinary subjects, however, make frequent references to the fact that cows sheltered in certain stables are especially liable to repeated abortions. Now, this, according to M. Franck and M. Ruloff, is the direct result of contagion. The former has ascertained that if matter from the genital passages of an animal, in which abortion has recently occurred, is introduced into the vagina of another that is pregnant, the latter will be caused to abort likewise—an effect due to the presence of micrococci or bacteria in immense numbers on the foetal envelopes, which ultimately bring about their decomposition. It is easy to see how readily this accident may take place in cow-stables, and how it may lead to an indefinite series of abortions. Hence we may infer the possibility of premature births occurring epidemically among human beings as the result of infection or contagion. The figures cited by M. Hervieux show, in fact, very clearly, that the years during which puerperal fever raged most fiercely at the Maternité were precisely those marked by the greatest number of abortions, and that the latter diminished in proportion as the sanitary condition of the establishment improved. Nevertheless, the premature births went on increasing for a considerable period after 1864, the year of highest mortality. This was because the puerperal contagion, like that of some other diseases, operates in different directions—striking, now the mother alone, now the unborn child, and now both together—while, in the reports of lying-in asylums, no regard is paid to the mortality of the newly born, the mothers' death-rate alone being taken into account. In short, it is proved by statistics that residence in these institutions tends to abridge the period of gestation, so that the longer a pregnant woman remains in one of them the less chance she has of reaching her full term. The practical conclusion is, that a woman in this situation should never be allowed to enter a lying-in hospital while puerperal fever exists as an epidemic within its walls; and at other times the date of her admission should approximate as closely as possible that of her expected confinement.

HOSPITAL SATURDAY AND SUNDAY.

It will not be known for some time yet how much has been contributed to the funds of the Hospital Saturday and Sunday Association this year, but the prospect is that the amount will be found to be considerably larger than last year. Of the 367 Protestant churches, 294 promised to take part in the work, whereas only 111 contributed last year. Although those regulations have been abolished that forbade donations to be appropriated in accordance with the wishes of the donors, it is to be hoped that contributors have very generally allowed their gifts to go into the general fund, for the association is much better able to judge of the requirements of individual institutions than most of those who give their money.

THE MEDICAL PROFESSION IN FRANCE.

It is cheering to learn that America is not the only country in which doctors are on the increase. According to a writer in a recent issue of the "Gazette hebdomadaire de médecine et de chirurgie," the number of practitioners (including physicians and *officiers de santé*, but not including midwives) has increased

from 14,376 to 14,848 since the last census was taken, in 1876; while the increase of the total population has not been sufficient to prevent the proportion of practitioners from rising from one in every 3,807 to one in every 3,235. It is the doctors that are growing in numbers, the *officiers de santé* having actually diminished. The latter constitute a lower grade of practitioners, the final disappearance of which is likely to take place without the need of any legal enactment for the purpose. The midwives are even more numerous, and the writer in question estimates that there could be only eighty confinements annually for each one of them, supposing that the doctors did no midwifery. How do these dames pass their time, he asks, when they are not making traction on the cord?

COPYRIGHT IN LECTURES.

THE question has often come up before the courts as to the extent to which oral lectures are the property of the lecturer, and subject to his control in the matter of publication. In this country several instances have happened in which the absolute right of the lecturer has been affirmed, but in many of these cases there have been collateral considerations which have tended to obscure the principle involved. A case has lately come before a Glasgow court in which these side-issues do not seem likely to be brought forward, and the decision may therefore be looked for with great interest, especially as the copyright law of Great Britain excludes university lectures from its action, and the case in question relates to such lectures. If the decision should be adverse to the lecturer, it may not prove to be applicable as a precedent in this country, since the exemption of university lectures from the operation of the British law may be held to be founded on the fact that the universities in that country receive their support from the State, which is not the case with us.

THE SURGEON-GENERALSHIP OF THE NAVY.

THE contest as to whether or not Surgeon-General Wales shall be his own successor, which has long been going on in a subdued fashion, has now reached a point at which it is likely to engage the attention of the country. Dr. Wales's chief rival is Dr. Horwitz, whose claim is grounded on seniority, and is said to be backed, in addition, by the personal preference of the Secretary of the Navy. The appointment is in the hands of the secretary, but it must be confirmed by the Senate. In view of the latter consideration, the report that nearly all the senators have either signed or are about to sign documents favoring the re-appointment of Dr. Wales becomes significant. The moral of the whole matter seems to be, that the Surgeon-General of the Navy ought to hold his office until he reaches the age for retirement, like the corresponding officer of the army. The medical corps would then be spared the chance of a recurrence of the disturbance attendant on such a contest every four years.

THE "ARCHIVES OF PEDIATRICS."

THE first number of a new monthly journal with this title has reached us, and we find both its contents and its appearance very creditable. As its name implies, it is devoted entirely to the diseases of infants and children. When we consider how much of the daily work of the general practitioner is made up of practice among children, the value of such a publication becomes apparent. The "Archives" is edited by Dr. William Perry Watson, of Jersey City. The first number, dated January 15, 1884, contains sixty-four pages of reading matter, including two original communications, a clinical lecture, a clinical memorandum, and a good variety of translations and abstracts.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 1, 1884:

DISEASES.	Week ending Dec. 25.		Week ending Jan. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	1	0	0
Typhoid Fever.....	26	5	8	6
Scarlet Fever.....	65	6	57	9
Cerebro-spinal meningitis.....	1	2	4	3
Measles.....	42	8	30	10
Diphtheria.....	40	24	36	20

SMALL-POX.—An outbreak of small-pox is reported to have taken place in the county jail at Newcastle, Del., last week.

A NEUROLOGICAL SOCIETY IN PHILADELPHIA.—The "Philadelphia Times" gives an account of a recent meeting of a number of the prominent neurologists of that city, at which resolutions were adopted looking to the organization of a neurological society. Dr. Kerlin presided, and Dr. Mills, Dr. Sinkler, Dr. Chase, Dr. Eskridge, and Dr. Brubaker were appointed a committee on organization.

THE MEDICO-LEGAL SOCIETY is to have a banquet at the Hotel Brunswick on Wednesday evening of next week, the occasion being that of the installation of the newly elected officers.

THE RECENT FIRE AT THE LUNATIC ASYLUM ON WARD'S ISLAND has moved the Fire Commissioners to consider what means can be taken to enable them to give more thorough protection to the island institutions. The most pressing need is thought to be the possession of means of conveying engines to the island more speedily than it can be done at present.

THE ENFORCEMENT OF SANITARY REGULATIONS.—It is reported that the Board of Health of Lancaster, Pa., has prosecuted a number of clergymen and physicians of that city for failing to make the quarterly returns required by its regulations.

THE ECLECTIC MEDICAL COLLEGE, of this city, is the defendant in a suit brought by the Attorney-General at the instance of the counsel of the Medical Society of the County of New York, the result of which seems quite likely to be the abrogation of the charter under which the institution does business. The main charge is, substantially, that the college has traded in its diplomas, even selling them in blank.

THE BOARD OF HEALTH has been obliged to curtail its force of sanitary inspectors, partly as the result of a reduced appropriation for salaries for the year 1884, and partly, it is understood, on account of certain changes in the organization of the working corps. These changes, which are attributed to the non-medical members of the board, acting in conjunction with the Health Officer of the port, an ex-officio member, are said to have been made against the wishes of Commissioner Johnson. Both on this account, and because the inspectors dismissed are among the most experienced that belonged to the corps, it is to be feared that the board will find itself crippled in its efficiency.

THE LAW REGULATING THE SALE OF POISONS seems to have been variously interpreted in Waterbury, Conn. An apothecary having been sued for damages for selling Fowler's solution without a prescription, and without labeling the bottle "poison," the defense was set up that Fowler's solution was not a poison within the meaning of the law. The Court held to the contrary, however, and the apothecary was convicted, but has appealed.

THE NEW AMBULANCE-CALL SYSTEM does not seem to have been brought to a high state of efficiency, to judge from the length of time it took lately to get an ambulance to the elevated railway station at Ninth Street and Third Avenue. By a round-about way, a signal was sent to St. Vincent's Hospital, but the ambulance was brought to police headquarters, instead of to the station in question. After having been sent to one place and another, the ambulance finally reached the place where it was needed, but the patient was then dead. The defect in the system seems to be that the signals are not sent directly to the hospital from the station where the emergency is reported, but by a circuitous course.

THE CITY CIVIL-SERVICE EXAMINATIONS have a medical aspect, it appears. The Mayor has appointed a commission to examine applicants for positions as nurses, attendants, orderlies, and the like, in the public hospitals. Dr. Thomas H. Burchard is said to be the medical appointee.

THE MASSACHUSETTS GENERAL HOSPITAL.—We learn that Dr. W. L. Richardson has been appointed a physician to the hospital, in the position made vacant by the death of Dr. Calvin Ellis.

M. PASTEUR'S CHOLERA COMMISSION is to be honored by the nomination of two of its members, M. Straus and M. Roux, as chevaliers of the Legion of Honor.

THE "COLLEGE AND CLINICAL RECORD."—With the December number, Dr. Frank Woodbury closes his connection with the "Record"—a connection which has been maintained for four years.

THE HEAVIEST HUMAN BRAIN observed thus far is said to have been that of the Russian poet, Turgenjeff, who lately died in Paris. It is reported to have weighed 2,012 grammes.

THE LOUISIANA STATE BOARD OF HEALTH.—One of the members of the board, Dr. Formento, has been nominated a corresponding member of the *Société d'Hygiène Publique*, of Bordeaux.

A DINNER IN HONOR OF M. CHARCOT was lately given at Lemardeley's, in Paris, the chief promoter being one of Professor Charcot's former pupils, M. Joffroy. More than eighty gentlemen were present, and the affair is said to have been unusually brilliant.

THE NEW SURGEON-GENERAL OF MASSACHUSETTS.—Dr. A. F. Holt, of Cambridge, who saw service during the late civil war, both as a medical officer and in other capacities, and for the past four years has been the Health Officer of Cambridge, has been appointed Surgeon-General of the State, on Governor Robinson's staff.

VIVISECTION IN GERMANY.—It is said that the German Government has been making inquiries of the various college faculties as to the facts in regard to the practice of vivisection in Germany, and that the Reichstag will soon be called upon to decide whether or not any legislation on the subject is necessary.

THE COOMBE LYING-IN HOSPITAL, DUBLIN.—Dr. Kidd's term having expired, Dr. Samuel R. Mason has been elected master.

BELLEVUE HOSPITAL.—Dr. E. Darwin Hudson, Jr., has been appointed one of the visiting physicians to the hospital, in place of Dr. Henry F. Walker, resigned.

THE NECESSITY OF AUTOPSIES in cases of death from unknown causes recently received a striking illustration in Massachusetts. A man having been found dead, it was suspected that his death was owing to injuries received in an encounter; but a medical examiner, after making a superficial examination of

the body, and discovering no external signs of violence, decided that it was unnecessary to carry the investigation further. He therefore reported the death as having been caused by heart disease, of which there seem to have been some signs. The town authorities being dissatisfied, however, a medical examiner from another town was called upon to make an investigation, and, on resorting to an autopsy, he discovered a dislocation of the cervical vertebra, thus, it is thought, revealing the fact that a crime had been committed.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending December 29, 1883:*

A. L. GIBON, Medical Director, to the Naval Hospital, Washington, D. C.

CHARLES W. RUSH, Passed Assistant Surgeon, United States steamer Colorado, granted sick leave for three months.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, January 7th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica (N. Y.) Medical Library Association.

Tuesday, January 8th: New York Surgical Society (private); East River Medical Association (annual—private); Medical Societies of the Counties of Chautauque, Chenango (annual), Clinton (annual), Delaware, Erie (annual), Genesee, Jefferson (annual), Livingston, Madison, Oneida, Ontario, Oswego, Rensselaer (annual), St. Lawrence (annual), Schoenectady (annual), Schuyler (annual), Steuben, Tioga (annual), Ulster, Wayne, and Yates, N. Y.; Jersey City Pathological Society; Newark (N. J.) Medical Association (annual—private); Trenton (N. J.) Medical Association (private).

Wednesday, January 9th: New York Pathological Society (annual); American Microscopical Society of the City of New York; Tri-States Medical Association (New York, Pennsylvania, and New Jersey—Port Jervis, N. Y.); Medical Societies of the Counties of Cayuga, Dutchess (annual), and Seneca, N. Y.

Thursday, January 10th: Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual); Harlem Medical Association (private); Medical Society of the County of Fulton, N. Y. (annual).

Friday, January 11th: Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, January 12th: New York Medical and Surgical Society (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

The annual meeting was held January 3, 1884, the President, FORDYCE BARKER, M. D., LL. D., in the chair.

ELECTION OF OFFICERS.—The minutes having been read, and the reports of the various officers and committees having been presented, the meeting proceeded to the annual election of officers. The polls were kept open one hour, at the end of which time the tellers retired to count the votes.

THE LATE DR. JAMES R. WOOD.—Dr. FRANCKE H. BOSWORTH presented to the Academy a portrait of the late Dr. Wood, and made a few remarks eulogistic of that distinguished surgeon. In accepting the portrait in behalf of the Academy, the PRESIDENT gracefully expressed his appreciation of the fitness of the gift, and of the excellence of the painting. He could assure the

donors that their generous gift would always have a place on the walls of the Academy, whether in its present quarters or in any future habitation.

Dr. FREDERIC S. DENNIS then read a MEMOIR OF DR. WOOD. [It will be published in full hereafter.]

THE LATE DR. JAMES MARION SIMS.—Dr. THOMAS ADDIS EMMET read a memoir of Dr. Sims. [See p. 1.]

REPORT OF THE TELLERS.—The tellers then reported the result of the election as follows:

For Vice-President: Whole number of votes cast, 143; for Dr. ROBERT F. WEIR, 101; for Dr. HENRY D. NOYES, 42.

For Member of the Board of Trustees: Whole number, 144; for Dr. CORNELIUS R. AGNEW, 101; for Dr. SAMUEL S. PUEPPE, 43.

For Treasurer of the Board of Trustees: Whole number, 145; for Dr. FREDERICK A. CASTLE, 101; for Dr. JOHN H. HIXTON, 44.

For Member of the Committee on Admissions: Whole number, 143; for Dr. DANIEL LEWIS, 100; for Dr. EDWARD H. JANES, 43.

For Member of the Committee on Ethics: Whole number, 141; for Dr. C. DIXON VARLEY, 106; for Dr. FRANCIS V. WHITE, 35.

For Member of the Committee on Education: Whole number, 144; for Dr. W. GILL WYLIE, 106; for Dr. JOHN SHRADY, 38.

For Member of the Committee on the Library: Whole number, 145; for Dr. ABRAHAM JACOBI, 101; for Dr. HENRY D. NICOLL, 44.

Dr. Weir, Dr. Agnew, Dr. Castle, Dr. Lewis, Dr. Varley, Dr. Wylie, and Dr. Jacobi were therefore declared elected to the respective offices for which they were candidates.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS.

A STATED meeting was held December 27, 1883, Dr. A. S. HUNTER, President, in the chair.

Dr. A. S. HUNTER, President, and Dr. H. GRISWOLD, Secretary, were re-elected to office for the coming year.

Puerperal Fever.—Dr. E. L. PARTRIDGE read a paper on this subject. [See page 9.]

Dr. JOHN C. PETERS would start the discussion by saying a few words regarding the value of different agents as antiseptics. Dr. Roof had mentioned Listerine, which he had used with some apparent benefit. Dr. Peters said that this agent was composed of certain of the essential oils, that of wintergreen, etc., which were known to possess antiseptic properties. It was seldom that one had opportunity to listen to a paper which was so compact, complete, and perfectly clear, leaving but little to be added. Of course, there was much conflict of opinion with regard to the management of these cases. He believed that calomel, carbolic acid, quinine, camphor, and a number of other so-called antiseptics should not be employed in the sick room as germicides. Experiments which had been made on micrococci went to show that bacteria would live in carbolic acid in quite strong solution; the same was true of opium, nuxvomica, chloral, and quinine. But when we came to the acids—nitric, sulphuric, muriatic, and even tartaric acid—they would all destroy bacteria in largely diluted solutions. The best germicide, however, was bichloride of mercury, which would destroy bacteria when mixed one part with twenty thousand of water. Of course, it could be employed in much stronger solution. Turpentine was an efficient germicide.

Dr. P. F. MUNDÉ said that he could not see much in the paper which he could take exception to; in fact, nothing. Per-

happens one or two facts had been omitted which he would have included, but the paper was intended to be brief, and could not be expected to cover the entire ground. There was possibly one cause for puerperal fever which might be mentioned, but which was difficult to define. He had always taken the ground assumed by Dr. Thomas in a paper recently read before the Academy of Medicine, that puerperal fever was puerperal septicæmia; that it was due to the absorption of septic, decomposing, putrid matter somewhere in the genital tract. But he must say that, notwithstanding a strong desire to believe in this theory alone as to the cause of puerperal fever, he could not help leaning a little to the view entertained by some, that puerperal fever might be a disease by itself. In looking back over an experience of years, he could recall epidemics of the disease in which many patients presented no signs, either during life or at the autopsy, pointing to septic absorption. We could not say that there was no other than the septic form of puerperal fever simply because the etiology of that other form was at present hidden from view.

He believed that neither Dr. Partridge nor Dr. Thomas had mentioned exactly the indications for intra-uterine injections. It would not do to say that every time there was a rise of temperature or a fetid discharge in puerperal cases we should wash out the uterus. It happened, when he read Dr. Thomas's paper, that he had a baby under observation only two days old, and the mother's temperature had gone up to 102.5° F.; the pulse was 120. Having just read Dr. Thomas's paper, he became worried, thinking of the advisability of washing out the uterus in every case in which the temperature rose above a certain degree. It struck him that this might be the temperature of lactation, and so it turned out to be. At all events, it went down again, no intra-uterine injection having been made. The next evening the temperature again arose to 103° F. Aconite and quinine were administered, and it went down again. It seemed to Dr. Mundé that the impression should not be given that every time the temperature rose to 101° or 102° the uterus should be washed out. A mere rise of temperature did not call for injections. There should be other symptoms conjoined with elevation of the temperature, such as fetid lochia, a chill, etc. But there might be entire absence of lochia, and still there might be the best reasons for intra-uterine injections. For instance, in a certain case there were no lochia, and the nurse said the patient had had a chill. The uterus was found sharply anteverted, which condition it had probably been in since delivery; the lochia could not escape. The flexion being reduced, the putrid lochia found exit, and, after washing out the uterus, the temperature went down. Putrid lochia were not alone a sufficient indication for washing out the uterus. He regarded those cases in which there was no lochial discharge, the temperature rising to 103° or 105° F., and the pulse to 120, as the worst cases of puerperal fever, and likely to end fatally.

As to the method of making the uterine injection, he did not think it safe to employ the Davidson syringe; he used only the fountain syringe. In a certain case the nurse had attempted only to make a vaginal injection with the Davidson syringe, yet the fluid seemed to have been forced into the uterine cavity, and the patient was almost in *articulo mortis* when he arrived. The Chamberlain tube or an elastic catheter could be used for making the injection with the fountain syringe, but he did not like the terminal perforation. The cavity could be thoroughly washed out through side-openings alone, and with less risk. He believed that if the temperature did not remain permanently reduced, after using the uterine douche for twenty-four or forty-eight hours, the douche should no longer be continued. Again, when the water came away clear, and the discharges were rendered pure, there was no further necessity for the douche, and, if continued longer than necessary, it would do harm. But, so

long as the lochia remained offensive, in cases in which the douche was indicated, he would be the last person to stop the injections. Again, with regard to cases of parametritis, or in which there was inflammation in the region of the broad ligaments with exudation, there being but a local inflammation, he believed that all disturbance or irritation should be avoided, and intra-uterine injections would do harm. In cases of tedious labor he would wash out the vagina with a carbolyzed solution or with bichloride of mercury a number of times during the progress of labor, and also after the birth of the child. If the hand had been introduced into the uterus, or if there were any other indication, he would inject that organ with the carbolyzed solution, two to three per cent., and he preferred for this purpose ice-water to hot water. The latter, if used sufficiently hot, was liable to scald; if not used hot, it would not arrest hæmorrhage so well as ice-water. The latter was not complained of by the patient as being disagreeable. He also administered ergot; if the patient could not swallow, then hypodermically. He gave ergot, quinine, and strychnine for two or three weeks, until the uterus had become thoroughly involuted. He also had vaginal injections given two or three times a day after labor, until he ceased his visits.

Dr. S. BARTON said that he had put his views regarding vaginal injections after normal labor on record at the county society recently, and he wished simply to reiterate what he said on that occasion. It had been said that the genital tract after labor had undergone traumatism, and that it should be treated as an operation-wound should be treated located elsewhere. But what did we do in the latter case? We closed the wound, putting on an antiseptic dressing, then let it alone, and thus obtained good results. In making vaginal injections after normal labor we violated this rule; we disturbed the genital tract twice a day; we opened up any injured and healing surfaces; we did not close up the parts by an antiseptic dressing, as it was impossible to do so. He had already stated his somewhat extraordinary experience after commencing the use of vaginal injections as a prophylactic; he had six cases in which the injections had apparently been the cause of puerperal fever. The method had been largely abandoned in German hospitals as not being beneficial.

Dr. DANIEL BROWN had before expressed himself as opposed to washing out the vagina after normal labor. He took the ground that the woman was not necessarily torn to pieces after childbirth, was not necessarily in a septic condition, and he believed that a good deal of injury might be done in making the injections and in disturbing the patient. The vagina was not an open tract as the woman lay in bed, and there was not a rush of septic air into it. If, however, the lochia became offensive, or labor were abnormal, then he would agree, with the other speakers, that the genital canal should be washed out and disinfected. He had never obtained any results with quinine in reducing septic fever in either large or small doses.

Dr. JEWETT, of Brooklyn, had recently been making some experiments in hospital practice going to test the value of antiseptic prophylactic measures in midwifery. The number of patients was fifty. Thirteen had been under the care of his immediate predecessor, who did not practice strict antiseptic measures during his service. The remaining thirty-six were confined in wards which were first evacuated, and then thoroughly disinfected with chlorine, the windows being left open, the bed-clothing boiled, and the furniture thoroughly cleansed with an antiseptic solution. Special instructions were given the attendants regarding cleanliness, and other measures were taken against sepsis. The figures were not sufficiently large to draw positive conclusions from, but they went to show in a degree the advantage of such precautions. Of the thirteen patients

treated only with ordinary measures for cleanliness, ten had a temperature above 99.5° F. This was the highest temperature which Dr. Jewett looked upon as within the bounds of perfect safety after delivery, although Dr. Lusk gave the limit a little higher. Of the thirty-six treated with thorough antiseptic precautions, only five had a temperature above 99.5 longer than one day, and the temperature rose to that degree at any time in only six of the entire number. He had always used the vaginal douche after delivery until recently, when, making experiments as to its value, he employed it in one half the cases only, unless some special indications arose. Those in which it was not employed showed just as favorable a temperature as the others. Possibly, had other strict antiseptic precautions not been observed, the vaginal douche would have proved more necessary. He regarded the local guard placed over the vulva as important. It was rendered antiseptic by a five-per-cent. solution of carbolic acid. He had the greatest confidence in the douche as a curative measure in septic infection. He did not resort to the uterine douche until after the vaginal douche had failed to control the disease. He was fully persuaded that the vaginal douche was capable of doing injury. There was danger, for instance, of the nurse introducing septic matter during the injection. He could cite cases in which it had been the cause of puerperal fever.

Dr. PARTRIDGE, in closing the discussion, said that he would express himself regarding the vaginal douche as Dr. Mundé had done. It might do harm if improperly employed, but otherwise not. He had been in the habit of making vaginal injections twice in twenty-four hours for several days after confinement. The patient had always expressed herself as rendered comfortable thereby. He believed, with Dr. Mundé, that there was no single indication for the uterine douche.

The uterine douche need not be used so frequently if it were followed by an injection of a ten-per-cent. mixture of iodoform and glycerin. He thought the question with regard to two forms of puerperal fever, one of septic origin and another of zymotic origin, might be considered an open one. In our present state of knowledge on this point, he thought we should not attempt to be too positive in making out every case to be one of septicæmia. It was quite true that the lesion need not be a large one to admit of septic infection. In every case of labor the cervix was lacerated, at least to a slight extent.

NEW YORK NEUROLOGICAL SOCIETY.

A REGULAR meeting was held December 4, 1883, Dr. WILLIAM J. MORTON, President, in the chair.

NEUROTIC AFFECTIONS ACCOMPANYING JOINT LESIONS.—Dr. GEORGE W. JACOBY read the following paper:

The history of the subject goes back as far as Hippocrates, by whom it is mentioned. John Hunter was the next to take any note of it, and it is with him that the sympathetic theory originated. Malgaigne (1826) and, within the last ten years, Weir Mitchell, Duchenne, Verneuil, Sir James Paget, and Charcot and his pupils, comprise the list of names that have cast light upon the subject. The experiments of Valtat show conclusively that, as a result of injury to the articular or even to the periarticular tissue, produced by irritant injections, the muscles of the entire limb, but more particularly the extensors of the joint, become atrophied. The result of the experiment given in the paper, as shown by the autopsy, is that the extremity which was experimented upon lost eighty grammes in weight in twelve days, and that each and every muscle separately weighed less than its corresponding fellow of the left side.

The affections which most frequently follow joint disorders are paralysis and atrophy of the muscles, and hyperplasia of the

subcutaneous connective tissues. More uncommon are anæsthesia, hyperæsthesia, analgesia, hyperalgesia, and neuralgias. Three groups of nerve functions are implicated—motility, sensation, and nutrition.

Symptoms.—After the joint lesion, there is a change in the appearance of the limb. The extensor muscles are generally the ones involved. There is a change in the electrical reaction of the muscles; their contractile power is diminished, and finally lost. There is no reaction of nerve degeneration, no reversal of the normal contraction formula. This is also most noticeable in the extensors. The paralysis may appear as early as twenty-four hours after the accident; it may also appear very late. The hypertrophy of subcutaneous connective tissue seems to stand in a direct ratio to the atrophy of muscular substance. The atrophy is ascending and progressive. Contracture is rare. The disorders of sensation are early symptoms, and the differential diagnosis between these affections and progressive muscular atrophy may become difficult.

The conclusions which I am entitled to draw from the notes of thirty cases are: 1. That in all cases, except those involving the ankle or wrist joint, the muscles affected were the extensors of the diseased articulation. 2. That, in those cases which involve the ankle or wrist joint, the affection is descending instead of ascending, and that the extensors are not affected to any greater extent than the other muscles. 3. That, in cases of arthritis of any of the joints of the fingers, the interossei muscles suffered first and most.

The cases which present particular interest are the following:

CASE I.—Mrs. L., aged twenty-four, while walking, slipped and fell striking her right knee. The joint rapidly increased in size and was very painful. The following day it was very much enlarged, the patella pushed forward, and fluctuation was distinctly noticeable. The joint affection improved rapidly, but upon the seventh day a distinct paralysis was noticeable. The movement of flexion of the leg upon the thigh was easily executed, but that of extension was performed with great difficulty. Patient could only by the strongest effort produce any contraction of the triceps cruris. As the effusion became absorbed the paralysis increased, and at the end of three weeks it was impossible for her to extend the leg at all. Atrophy was now well marked, showing a difference of three centimetres in favor of the healthy limb. The gluteal muscles were also involved. The electro-contraction of the muscles were decreased to both currents.

CASE II.—This case shows how soon after the injury paralysis and atrophy may ensue. Patient, a laborer, aged thirty-four, was struck upon the left knee on a Friday afternoon. He applied ice to the joint. The swelling went down. I saw him upon the following Monday, seventy-two hours after the injury, and then a distinct paralysis of the triceps cruris was noticeable, and atrophy was distinguishable upon the following Friday.

CASE III.—By this case may be seen how entirely disproportionate the effect may be to the cause. Patient, L. H., merchant, aged thirty. While walking, his left ankle joint turned, the outer margin resting upon the ground. Notwithstanding severe pain, he continued his walk. Used the joint for several hours. When he examined his foot he did not notice any change in the appearance, but it was painful on pressure. After two months he noticed a slight weakness in the injured leg, which was particularly observable upon going down stairs. Four months after the accident I saw him. His condition was then as follows: His foot hangs with the toes pointing downward, and can not be brought to a right angle with the leg. He walks upon his toes, and does not bring his heel to the ground. The toes may be easily raised, but they fall back again by their own weight. The interossei muscles of the foot are atrophied. The peroneal muscles and those of the thigh are also involved. The gluteus maximus is evidently considerably atrophied, for a large depression takes the place of its former prominence. Added to this, severe neuralgia of the sciatic and peroneal nerves rendered his condition almost unendurable.

The pathogenesis of the affection is still a disputed one. The sympathetic of Hunter, the pressure theory of various writers, the theory of functional inertia, then that of Vulpian, which is reflex, and, finally, those of Decosse and Charcot, are all incapable of satisfactorily explaining all of the cases.

The treatment, in order to be successful, must be varied and adapted to each special case. The chief agents at our disposal are electricity, massage, mechanotherapeutics and hydrotherapeutics in the form of hot and cold douches. Massage, in very many cases, seems to deserve preference to the electrical currents. The effects producible by massage are:

1. The diffusion of any articular effusion; 2. The diminution of vegetation; 3. The loosening and destruction of adhesion; 4. Increase of circulation; 5. Stimulation of muscular fibers.

In fact, all the agents above mentioned seem to act similarly by stimulating the nutrition of the affected muscles, by increasing the flow of blood to the parts, and perhaps thus causing a reflex excitability of the motor tracts.

Dr. CHARLES F. TAYLOR said the subject was one with which he was familiar, as all persons engaged in the treatment of joint affections must be, but it was too large even to touch upon, in many of its aspects, in the limited time at his disposal. He was obliged to differ with the essayist, both as to the pathology and as to the treatment of the neurotic disturbances attending or following joint diseases of the character which he had set forth in the paper. In regard to the pathogenesis, he did not think it necessary to adopt any peculiar theory, or to assume that even any special deviation from the ordinary course of nerve function took place, in order to account for all the facts observed in these cases. The difference was one of degree only. A person was attacked with inflammation of the knee joint, for instance. This was rapidly followed by diminished size of the muscles controlling the action of that joint, with diminution and sometimes even entire loss of muscular action. But loss of muscular action was by no means evidence of loss of muscular power. The nerve-centers were unquestionably affected, but the cerebral nerve-centers were the seat of the greatest disturbance. No theory could be adequate which left the cerebral nerve-centers out of account, and the consequent mental element, which played, in his opinion, so important a part in these cases. The simple loss of muscular action, consequent on an attack of inflammation of the knee joint, was sufficient to account for an immediate diminution of the size of the muscles whose freedom was curtailed. This was the certain result of mechanical restraint alone. But, if, besides the mechanical restraint of position or retaining apparatus, there were added the mental restraint of fear, the difference in the rate and amount of muscular atrophy was enormously increased. Mental restraint acted like an Esmarch's bandage: it squeezed the very life out of a muscle. As a very simple proof of the remarkable effect of mental restraint in causing muscular atrophy, he would mention those frequent instances accompanying disease of the hip joint. These patients often applied with limbs attenuated to the last degree. That a large portion of the muscular attenuation accompanying somewhat long-standing hip-joint disease was due to the mental restraint of motion, which might cause suffering, was proved by the fact that the application of proper mechanical protection, by which the mind was relieved of the fear of pain, was followed by immediate increase of muscular growth. This was so common and well-known a fact that advantage was constantly taken of it in the management of cases. His observation of the effects of joint diseases on the muscles must have included some thousands of cases, and he had never seen a case of atrophy which, in his opinion, could not be perfectly explained by non-use and mental restraint.

In regard to the therapeutics of muscular atrophy and loss of action following joint disease, he feared he must differ with the essayist quite as widely as in regard to their pathogenesis. So far as the muscular wasting had been caused by non-use, during the progress of the arthritis, it was sufficient to set the muscles to work again after the inflammation had subsided. Muscles stubbornly refused to act, or, if forced to act, they as stubbornly refused to develop, during the progress of an arthritis. We must wait till the joint was well before we could expect the muscles to act readily. It was astonishing to notice how deep and lasting the impressions made on the cerebral nerve-centers sometimes were. Whatever the treatment might be, he did not believe it could be of any direct service so long as a mental restraint over the muscles was continued; and it was equally true that whatever would remove such mental restraint would cure the atrophy. So important did we consider the mental influence over the muscles, attending and following joint diseases, that we took special pains to get and to keep the direction of that influence, for the very purpose of hastening the recovery of the muscular power, after curing the joint disease. But the object of treatment should be to divert the mind from the affected member, rather than to keep up attention to it, by local treatment. It was true that massage would sometimes seem to do much good to the atrophied muscles; but this was apparent and indirect rather than real and direct. Massage had elements of mental diversion and control which might be properly and usefully employed. But, with a large experience in its use, he was free to say that he thought it was very much overestimated as a direct therapeutic agent. Its direct effect on the muscles was very slight, and what there was was not exercised. Exercise involved nerve action as the initial force. Massage merely assumed to promote the forward displacement of a certain small portion of the tissue fluids. But such propulsion of the fluids contained in the soft parts, even if effected, was not exercise, nor a rational substitute for exercise. Only by the legitimate use of the nerve-centers, especially of the cerebral nerve-centers, could there be any action deserving the name of exercise. To regulate such nerve-center function, when disturbed by the strong impressions made by joint inflammations, was the indication presented in the cases under discussion. In most cases time alone was sufficient. In others, any means which effected a diversion of attention, whether applied to the affected member or at a distance from it (which was the safer plan), would effect a cure. Incidentally, massage, electricity, the manipulations of the so-called "bone-setters," as well as the "animal magnetism" of the more arrant quacks, all did appear to produce wonderful results in a certain number of cases. The results were real, but were not produced through any direct effect on the parts, but through the incidental impressions made on the cerebral nerve-centers; in other words, on the mind. The worst of it was that there was a large number of cases in which direct treatment of the part affected by the mental restraint tended to increase the mental impression, and to indefinitely postpone that unrestrained action of the muscles by which alone they could regain their power. The most difficult cases within his experience had been those in which the patients had had their attention to the affected member kept up by too much local treatment after the joint inflammation had passed away.

Dr. LEONARD WEBER had seen some cases of muscular atrophy following joint disease, and remembered one in particular, which might be of interest to the society:

Mr. J. W., aged thirty-two, merchant, of nervous temperament, but strong and active, made a tour through Switzerland in the summer of 1879. Being a good pedestrian, he traveled mostly on foot, but, after a severe Alpine tramp in the upper Engadine, he was taken with synovitis

of the knee joint. When the effusion had passed away, the extensor muscle above the knee had wasted considerably; the patient was unable to walk, and reached New York with difficulty. On examination, the joint was found to be in good order again, but the atrophy of the extensor muscle was still very marked, and the patient, by the support of a cane, walked, but not without difficulty. A four weeks' course of faradization made no appreciable change, and, although he was assured that he would regain the use of his limb completely in the course of time, he was not satisfied, but grew despondent, and finally left for Europe to consult Professor Erb. The latter told him the paralysis was not in his limb, but in his mind; that he should go about and exercise and live well, and he would soon regain the full use of his muscles. He followed this advice, and returned to New York early in the spring of 1880, in perfect health.

As to the pathogenesis of the disorder, Dr. Weber believed that the muscular paresis and atrophy in the case reported, and in others of a like character, were of reflex origin, and that functional disturbances of motor centers in the brain, and not in the spine, were probably the cause of the trouble. Of massage and its effect in such cases, as reported by the author of the paper, he had had no personal experience, but had seen excellent results from its proper application in subacute joint diseases, muscular rheumatism, and bad sprains.

Dr. E. C. WENIG said that the paper had brought out several points of interest, especially as regarded aetiology, symptoms, and the hopefulness of treatment. He was sorry to find, however, that the reader had nothing new to offer in explanation of the pathogenesis of these conditions. Admitting the correctness of Sappey's views concerning the richness of the articular and periarticular tissues in nerves, it certainly seemed thoroughly puzzling why acute polyarticular rheumatism was not more frequently followed by just such accidents as Dr. Jacoby had described. Again, those more chronic joint manifestations dependent upon the gouty diathesis, where profound structural alterations were frequently observed, only quite exceptionally led to atrophy, paralysis, and the other neurotic disturbances alluded to. Upon these points he was sorry to find that the paper under discussion left us as much in the dark as we had been before.

With regard to massage, although his experience was limited, it was yet sufficient to fully convince him of its utility in certain cases. Of course, there was massage and massage. But, when properly and systematically applied, it was useless to try now to dispute its beneficial action. The combined experience of a large number of competent men placed its usefulness beyond the pale of doubt.

Dr. C. HEITZMAN said: "When I was a student in Vienna, a girl, twenty-five years of age, fell down stairs and acquired serous gonitis, after which she was paralyzed and confined to her bed for five years. She was sent to a water-cure. A physician there urged her to walk, in order to enable him to judge about the degree of the disease, but she began crying, and said she was unable. She went home in despair. Her sister asked her to make at least an effort to walk. After considerable urging, she got out of bed and walked. This illustrates that mental influence has much to do with these affections.

"I would call the attention of Dr. Jacoby to an article by Dr. Nicoladoni, published in 1871, in the 'Wiener med. Jahrbücher.'" I have seen his specimens with the nerves brought out by the use of chloride of gold, and, from my observation, I am convinced that these terminal nerve-fibers are not stable and unchangeable formations, but, on the contrary, that new nerve-fibers may form at any time of life from the living matter present in all tissues.

"I am thoroughly convinced that nerves may disappear and appear, according to certain physiological necessities, certain

physical conditions, of the body, such as, for instance, are results of exercise.

"In an inflammation of a joint, the synovial and capsular wall being the seat of pathological changes, of breaking down of tissue, certain nerve-fibers of the sensitive sphere will be within its range, and we should know that a certain number of them perish altogether.

"Dr. Jacoby to-night did not give a theory of his own, but he quoted various authors. It certainly was the best plan for him to pursue, as so very little is known, even in our day, about nervous action.

"We know that, by the inflammatory destruction of a number of sensitive nerve-fibers in the capsule of the joint, at once three spheres are involved: the motor, for there is paresis or paralysis; the sensory, for there is pain; and the vaso-motor or trophic, for there is emaciation.

"So far as my insight goes, I am convinced that the living matter in a reticular arrangement produces the gray matter and all essential portions of nerves, including the axis-cylinder. This fact is thoroughly acknowledged by Professor Stricker, of Vienna.

"There may be a loss of living matter of certain nerves, in consequence of inflammation, and loss of contractility, with impaired conduction toward the center. We then have comparative rest in a limited portion of the spinal cord, or even the brain, for the reticulum of living matter is set at rest for a time, without there being a material change in the living matter of the gray substance and ganglionic elements.

"If massage will re-establish the activity of muscles, we are prepared to understand that the field in the spinal cord before out of action may at once be brought into motion, and the motion communicated at once to the motor ganglia and all the sympathetic centers which are situated along the spinal cord, as physiologists agree.

"The nervous action may for a certain time be impaired or dulled, because the reticulum of living matter is in comparative rest, lacking an impulse from without. So soon as such an impulse is carried to the resting portion, either by mental action, energetic will, or mechanical shock, as is done in massage, or in any other way, the contraction of the living reticulum is induced, and the normal condition re-established. Neither the assumption of centripetal neuritis, nor the theory of reflex action, can explain the phenomena observed after the inflammation of articulations and their occasional speedy cure."

Dr. HENRY L. TAYLOR said: "I can contribute a case showing the beneficial effect of the use of the body battery:

"A woman, under the care of Dr. J. West Roosevelt, at the Roosevelt Hospital Dispensary, of middle age and neurotic personal and family history, presented among other symptoms that of a pricking sensation down the right arm and in the right hand. There was no joint trouble. Dr. Roosevelt and myself regarded it as one of the neurotic disturbances incident to a person of her temperament. The body battery was tried for its psychical effect, and the woman returned in two days, with the abnormal sensations gone. The symptoms had lasted a considerable time. The same treatment was applied to the hand, without effect, during the week which she has since been under observation.

"I regard the result in this case as entirely due to mental influence.

"Before concluding my remarks, I wish to speak of an interesting class of cases alluded to by Dr. Gibney—the pseud-arthroses. We have in these cases nearly or quite all the symptoms enumerated by Dr. Jacoby in his paper—atrophy, hyperæsthesia, or anæsthesia, etc., following mental restraint, there being no affections of the joints. I regard the trouble as functional and seated mainly in the brain, and not in the spinal cord, as Dr. Gibney believes, if I understand him. Almost any-

thing calculated to make a profound impression on the higher nerve-centers will often prove curative in these cases. This is, in my opinion, one of the most important effects of massage.

"I have in mind three cases of ankle trouble following sprains, seen three to five months after the injury. The acute symptoms had subsided, but pain, tenderness, and such impaired function as to cause limping, persisted. These patients had been treated with supports, etc., for several months. Physical examination showed no local trouble not readily explained by mental inhibition. There had been recovery from the sprain, without a corresponding readjustment of the nerve-centers to the new condition. The patients were perfectly and rapidly cured by purely psychical treatment. I do not doubt that massage often accomplishes the same result through its psychical effects in similar cases, but it is an empirical method, as generally employed."

Dr. HENRY J. GARRIGUES said: "What little experience I have had with massage is in its favor, but that is almost nothing compared with that of Dr. Taylor. Nevertheless, I have used massage for ten or twelve years. I became acquainted with it when it was quite new, and have found it most excellent for secondary conditions and for the affection to which Dr. Jacoby alludes."

The PRESIDENT said: "I will say a few words upon the subject of the continuous body battery and its use; the battery consists of a simple pair of elements. I well recollect a case in which I used this with good effect. A gentleman came to me with chronic arthritis. Associated with it was paralysis of the extensor group of muscles; the foot was dropped and the toe dragged; he said no form of electricity that he had tried had done him any good. I told him that I would give him a battery which he could wear all the time, which consisted of pieces of silver and zinc connected by copper wire. The zinc was shifted about upon different parts of the body, and a constant current was kept up, which could be tested at any time with ordinary litmus paper. While he was under alkaline treatment the battery worked with better results, the excretions being saline."

"This battery is also useful in the treatment of chronic ulcers. The granulations formed will be found much more healthy. It is also beneficial in chronic eczema."

This much he would add to the practical part of the paper, since the main question, after all, was as to treatment.

Dr. V. P. GRANEY said that at times it was very difficult to determine whether the atrophy preceded or followed joint disease. It was his opinion that it was more frequently the accompaniment of epiphyseal disease than of joint disease proper, and he wished to emphasize the fact—for a fact it was, according to his observations—that the majority of grave lesions about joints in childhood were epiphyseal—in other words, chronic epiphysitis.

Synovial disease he believed to be rare. If one examined a hip, for instance, said to be the subject of disease, marked atrophy was usually found in the thigh and calf muscles long before any pronounced joint symptoms were present. The atrophy, he further stated, was confined to the muscles and not to the bony tissue, for it was a rule that in chronic epiphysitis, about the knee for instance, the epiphysis was actually elongated. He, in common with many other orthopedists, had long regarded acute atrophy as one of the most constant signs of chronic articular ositis, and he believed the atrophy to be purely reflex and not the result of disease, or of the pressure from apparatus or bandages.

One argument brought against mechanical treatment—viz., that atrophy was produced—was fallacious. The clinical history proved this conclusively. He was not sure whether chronic

synovitis induced atrophy, but he was positive that in acute synovitis atrophy was rather the exception than the rule.

A class of cases presented certain neuroses which were very valuable in excluding bone or joint disease. They were known as spinal pseudo-arthritis, and known, furthermore, as neuroses of the joint, neuro-mimosis, hysterical joint, Brodie joint, etc. The neuroses referred to were neuralgia, hyperæsthesia, anæsthesia, but rarely any atrophy. He believed that they had their origin in the spinal cord and the meninges, and the readiness with which they responded to treatment confirmed him in his belief.

Furthermore, the neuralgia of chronic articular ositis of the hip was well known, and the knee branch of the obturator never was affected early, and very often late in the disease, although this was denied by some writers, and especially a recent writer, Dr. Clippingdale.

In some of the most advanced cases of caries of the hip this obturator neuralgia was very distressing. Very frequently the sciatic nerve was involved, and in some cases the sciatica was most intense, and yielded to treatment with great difficulty.

The theory of paralysis and degenerative nerve changes being sequences of chronic arthritis was one about which he did not feel fully convinced. He referred to a case of chronic arthritis of the knee, in an old woman who had paralysis of most of the muscles of the thigh and leg, in which it was thought by some who saw the case that the paralysis was dependent on the joint lesions, but the proof was not by any means conclusive.

Dr. JACOBY said: "The first point to which I desire to reply is that brought forward by Dr. Taylor. He said that he believed these nervous changes, particularly the paralysis and atrophy, were produced by psychical or mental influence, and that they might be relieved by attention to this point. I am at considerable variance with him as regards the effect that mental influence has in the production of these disturbances. I, for my part, can not understand how mental uneasiness can produce an atrophy, which is easily diagnosticated with the tape, of a certain muscle, and that in the short space of three days. But, as the doctor has promised us a paper upon this subject, perhaps that will succeed in convincing me."

"As regards the opposition which the massage treatment has received, I expected it would receive more. Massage has, especially in the United States, been very much in the hands of non-professional men, and, consequently, has been greatly abused and misapplied, but I hardly think there can be any question as to its efficacy in suitable cases and when properly applied."

"The theory advanced by Dr. Heitzman is very similar to that of Professor Charcot, who, as I mentioned in the paper, believes that certain parts of the cord are in a state of inertia or stupor."

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 17, 1883.

DOWNWARD DISPLACEMENT OF THE TRANSVERSE COLON; THREE CASES, WITH AUTOPSIES.—Dr. CHARLES HERMON THOMAS read the following paper: A deformity of the transverse colon, consisting in the elongation of that portion of the large intestine and its displacement downward in the form of a loop or festoon, has been observed by me in three instances in private practice. Autopsies were had in them all. In the first the most dependent portion of the gut was found midway between the umbilicus and the pubic symphysis; in the second it was deeply impacted in the cavity of the pelvis; and in the third it reached the level of the umbilicus.

A positive diagnosis was not made in any of the cases, although in two of them the striking clinical conditions present

were studied with special care in association with experienced and highly skilled observers. In the second in order of occurrence the relationship between it and the preceding one suddenly occurred to my mind, and was communicated to the operator while on our way to make the post-mortem examination. In the third case the actual condition present was strongly suspected before death. So that, in both of these latter, special precaution was used at the autopsies to avoid disturbing the relative position of the abdominal viscera until their location had been accurately determined.

The lesion here described seems to be of rare occurrence. Thus far I have failed to discover a single recorded case; and not until this paper was nearly completed was I able to find any published reference to the condition, however vague. Several months ago I asked the assistance of Dr. Formad, who informed me that in a series of autopsies, numbering over two thousand, which he had made, he had not observed an instance of like character. He has also kindly sent me the following note:

"UNIVERSITY OF PENNSYLVANIA, December 15, 1882.

"DEAR DR. THOMAS: . . . I looked very thoroughly through the literature of intestinal lesions, but did not meet any record of misplacement of the transverse colon.

"Very truly yours,

"H. F. FORMAD."

CASE I.—Male, aged eighty years, a retired gentleman, came under my care August, 1874, as a patient of Dr. J. J. Levick, who had placed his practice in my charge during his vacation, and who informs me that there was no previous history of abdominal disease.

The symptoms present were extreme emaciation, feebleness, anorexia, and a profuse but fitful diarrhœa. The abdomen was retracted, and somewhat tender upon pressure. There was no complaint of pain except at intervals of three or four hours, when the diarrhœa had ceased for a time. Coincidentally with the cessation of the diarrhœa, a tumor about five inches long and two inches wide, of firm consistence, and visible on inspection, appeared beneath the thinned abdominal walls in a transverse position midway between the umbilicus and the symphysis pubis. The tumor persisted but an hour or so at a time, disappearing immediately upon the return of the diarrhœa. During the periods of continuance of the tumor the pain was so severe as to rapidly weaken the patient. This condition of alternate flux and painful tumefaction was repeated several times daily until death took place. During the attendance upon the case there were associated with me Dr. Albert H. Smith and a distinguished physician from another city—a near relative of the patient. With attention fully directed toward it, and after repeated observations, we were unable to frame a reasonable hypothesis as to the exact character and origin of the tumor. Death occurred September 12th, about three weeks from date of attack.

Autopsy.—In the presence of Dr. Levick and the relative mentioned, I made the abdominal section. To the former I am especially indebted for the specimen obtained, and which is still preserved.

Upon laying open the abdominal cavity, the transverse colon was found to be greatly elongated and proportionately narrowed, the loculi being nearly obliterated, forming a loop open at the top similar to the letter U, the most dependent portion occupying the position of and constituting the tumor as above described, i. e., the horizontal portion of the loop rested upon the small intestines, midway between the umbilicus and the pubic symphysis.

CASE II.—Female, aged fifty-four years, a lady of delicate frame and refined habits of life, was under my charge for about ten months prior to her decease. During the greater portion of this period Dr. James H. Hutchinson was associated with me in the attendance. Dr. Charles K. Mills also saw her for me during my vacation. The patient had previously been attended by a homœopathic practitioner, who had diagnosed her condition as enlargement of the liver and stricture of the rectum. The latter supposed condition he had treated by the introduction of rectal bougies, this practice being afterward abandoned on account of the pain produced, and the lack of beneficial results.

Profound cerebrastrhenia from other causes, with several months of delirium, and which finally led to a fatal result, served greatly to complicate the issues involved. The abdominal conditions which had been recognized from the beginning were thus either masked or placed entirely in abeyance during much of the time.

The more prominent symptoms recognized were (1) pain, referred chiefly to the region of the liver, and extending both upward and downward, which pain was aggravated by walking, and was described as of a dragging, tearing character, and which had existed for four years or more. It was very much relieved by the recumbent posture, and, after some months spent mostly in bed, almost entirely vanished.

2. Obstinate constipation, with indications of obstruction, even a liquid passage being voided with difficulty. The capacity of the rectum to retain enemata was also diminished to two ounces.

3. Two solid tumors, elongated in form and of the consistency of solid faeces, were discovered, located one on each side of the abdomen, and evidently just beneath the parietal structures. They were vertical in position, and about eight inches distant from and so parallel to each other, and were traced from the border of the ribs to within about two inches of the pelvic brim. This condition was observed but a few times, and at considerable intervals; at other times it was absent. The hypothesis was adopted that these masses were the ascending and descending colon, respectively, in a state of fecal impaction.

Death occurred March 30, 1882, supervening upon a severe mental shock. An autopsy was made by Dr. William M. Gray two days later, Dr. Hutchinson and myself being present. To quote from Dr. Gray's notes: "Upon opening the abdomen, found complete prolapse of the transverse colon. It was carried beneath the pubes and rested on the bladder. The large intestine was much narrowed, and was filled throughout with hard nodulated faeces; the mesocolon was absent, and the omentum, which was free from fat, was extremely atrophied; the rectum was normal, showing no evidence of stricture; the liver was of normal size, but, upon microscopic examination, showed marked cirrhosis."

Thus, that which had appeared to be the ascending colon proved to be the descending limb of the displaced transverse colon; and that which had seemed to be the descending colon was shown to be the ascending limb of the same malformation.

The pain which had previously been felt in the region of the liver, and which had been relieved by recumbency, had manifestly been caused by the sharp flexure of the colon contiguous to it; and the rectal obstruction by the crowded condition of the pelvis produced by the invading loop of large intestine.

CASE III.—Male, aged thirty years, a tailor's cutter, under attendance nine days prior to decease. The subject of advanced Bright's disease, with "hyaline, epithelial, and granular tube casts, also mucous cells, compound granule cells, and free oil globules," he was extremely exhausted thereby. He also complained of severe pain in the abdomen to the right of and slightly above the level of the umbilicus. Upon inspection and palpation of the part, no enlargement or induration was discovered; but light percussion developed an intensely tympanitic sound confined to the region described. Misplacement of the transverse colon was suspected, and the region kept under observation for any evidences of fecal impaction which might, but which did not, present. Death occurred suddenly March 19, 1883. Autopsy two days later, by Dr. W. M. Gray, operator, Dr. W. H. Burke and myself being present.

The following notes were made by Dr. Burke: . . . "Body rather emaciated, and showing signs of commencing decomposition. On opening abdomen, absence of fat noted, omentum normal. Peritoneum showing traces of lymph and pus, in the pelvic region especially, but no general inflammation. Transverse colon empty, distended with gas, and has a sharp flexure at its center, bending obliquely downward and toward the right, to the level of the umbilicus, thence sharply upward to its normal position. Mesocolon intact and apparently normal except in length. No sign of fecal obstruction at the point of flexure. Both kidneys cirrhotic; capsule adherent, and secreting structure destroyed."

Evidently the heightened tympany localized near the umbilicus,

which had been previously recognized and ascribed to the presence there of a portion of the transverse colon misplaced, had in reality been so caused.

No adhesions of the displaced parts were found in any of the cases cited. The intestinal fault was probably not the cause of death in any of them. Taking them together, it will be seen that clinical conditions and post-mortem appearances agree in at least one important particular, viz.: the location of the displaced intestine in contact with the anterior abdominal wall and below its normal site.

The normal anatomical relations of the colon have a special significance in the light of these cases, from a diagnostic point of view. The ascending and descending portions of the colon are, normally, to be found in contact with the *posterior* or lumbar wall of the abdominal cavity—behind the small intestines—and are there bound closely down by reflections of the peritoneum. The transverse colon, on the contrary, is normally in contact with the *anterior* abdominal wall—in front of the small intestines—where it is loosely suspended by the transverse mesocolon, a structure of considerable length.

It therefore appears to be a practical impossibility for the vertical portions of the large intestine to become spontaneously misplaced anteriorly. But of the transverse colon, its displacement downward—in which changed position its relation of contact with the anterior abdominal wall is retained—these cases show to be a condition of repeated occurrence.

Conclusions.—1. Displacement of the transverse colon downward within the abdomen may be, to any degree, partial or complete.

2. Such displacement will present as solid tumor if the bowel be in a state of fecal impaction, or as a limited area of heightened resonance if the bowel be distended with gas; but in either case the displaced part is to be found *in contact with the anterior abdominal wall.*

3. The occurrence of intra-abdominal tumor situated below the normal site of the transverse colon, and having the same general configuration as the colon, such tumor being of a certain consistence, and presenting evidences of being in contact with the anterior abdominal wall, or the occurrence of areas of special tympany with like outlines and similarly located, constitutes a diagnostic sign strongly indicative of downward displacement of the transverse colon.

Meeting of December 12, 1883.

SOME NEW FACTS ABOUT ASTIGMATISM.—DR. M. LANDESBERG read the following paper:

Astigmatism is such an abstruse subject that it should generally only be treated before the narrower circle of physicians who have made ophthalmology a special study. And, if I beg leave to lay before you the results of my observations in regular astigmatism, there must be some special reason which induces me to make exception to the rule. The results of my observations open a new insight into the nature of astigmatism; they mark a real progress in the knowledge of the latter, and furnish practical consequences which may be utilized for the benefit of all those who are suffering from a similar trouble.

You know, gentlemen, that by astigmatism we understand that form of asymmetry of the cornea in which the curvature of the latter is either different in the different segments of the same meridian, or in the different meridional planes. The first form is called *irregular*, the latter *regular astigmatism*. Irregular astigmatism may be either acquired or congenital. It is very often associated with irregularities of curvature in the lens, and but very seldom admits of any remedial help, or of correction by glasses.

It has been the scientific dogma of our days that regular astigmatism presents, in the greater majority of cases, a congenital and unchangeable optical defect of the cornea, which can only be neutralized by the selection of suitable glasses. The development of regular astigmatism post partum is considered to be of very rare occurrence, and to take place only in consequence of certain affections of the cornea, of spasm of the lids, and occasionally after iridectomy and extraction of cataract. In these instances, however, astigmatism is temporary only, and it generally subsides when the causal affection which had produced the changes in the curvature of the cornea has been removed.

My observations in regular astigmatism are in full contradiction to the prevalent opinion concerning the nature of this form of error of refraction. They have taught me that, certain conditions given, regular astigmatism may develop in any cornea; that it is apt to progress and to increase in degree when the primary cause, of which astigmatism is only the effect—one of the many symptoms only of the morbid process in which the eye actually is involved—continues to work. If you have such a case in hand, and you correct the optical defect by cylindrical glasses, you only add a new injury to the existing ones; you only aggravate the morbid process; you consolidate a disorder which is apt to be cured by appropriate treatment.

The conditions under which regular astigmatism may develop are: *Progressive myopia, with and without spasm of accommodation; spasm of accommodation in an emmetropic, myopic, and hyperopic eye.*

In my first communication on this subject, in von Graefe's "Archiv für Ophthalmologie," xxvii, 2, I gave the history of fourteen cases which had come under my treatment, either for progressive myopia with and without spasm of accommodation, or for the most various asthenopic troubles, based upon spasm of the ciliary muscle, in connection with myopia or hyperopia. All these cases were complicated with regular astigmatism. The degree of the latter varied from 1-36 to 1-10. An increase in the degree of astigmatism was observed in two cases of progressive myopia, in connection with the progress of the latter. The treatment instituted for the asthenopic disorders, or for the progressive myopia, had the effect not only to cure the affection proper, but also to remove astigmatism entirely. The degree of astigmatism gradually subsided, keeping pace with the decrease of the other morbid symptoms.

I am now able to corroborate my first statements by additional facts. The latter are based upon a further observation of thirteen cases, in which the *transitory character of certain instances of regular astigmatism* has been fully established.

I shall not be guilty of wearying the audience by a monotonous exposition of all these cases, however interesting they may be. A brief summary of three cases will suffice to illustrate my proposition:

CASE I.—The twelve-year-old boy McE. came under my treatment October 26, 1882, on account of weakness of his eyesight, which had rendered regular work impossible. He has been suffering for several years from violent headaches, with which were lately associated noises in the ears. He had stammered before, but slightly and occasionally only. This disorder has now become permanent for the last few months. There were marked anemia and nervousness; the eyelids were in constant nictitation; the external appearance of the eyes was normal; all the other organs were in good condition.

Vision of the right eye was 12-70; concave 1-12 increased vision to 12-30; concave 1-12, combined with concave cylindrical 1-18, 65°, brought vision almost to 12-20. Vision of the left eye was 12-100; concave 1-20 increased vision to 12-40; concave 1-20, combined with concave cylindrical 1-26, 105°, brought vision to 12-20. There were besides weakness of the internal muscles and marked venous hyperæ-

mia of the retina. The boy was not able to continue reading for a few moments, not even medium large print. He turned the book soon to the right, soon to the left side, raised and lowered it, and seemed to feel easiest by holding it in an oblique position to his visual line, the head turned on the vertical axis to the left. The eyelids, which were in constant nictitation, closed spasmodically on protracted efforts of accommodation, which had besides the effect to call forth lachrymation and congestion of the ocular conjunctiva, with a sensation of intense pain and pressure in the forehead and in the temples. Photophobia was not present, and the eye could stand even strong light with great ease.

I abstained from any internal medication, however tempting it was to try to build up the system by roborantia. My treatment consisted merely in absolute rest of the eyes and in the use of duboisine, by which maximal mydriasis was kept up. With the abatement of the spasm of accommodation, which was marked by a decrease in the degree of myopia and astigmatism, and by an increase in vision, the general health improved, headaches and nervousness subsided, and stammering returned to its former condition.

The final result of the treatment, as noted down January 12, 1883, was as follows: Vision of the right eye 12-15; concave 1-42 increases vision to 12-12. Vision of the left eye 12-15; concave 1-60 increases vision to 12-10. No astigmatism in either eye. The weakest cylindrical glasses at my disposal, concave 1-70, impairs vision. Equilibrium of the muscles perfectly restored. Retina normal.

Examination, repeated June 2d, showed no change in the condition of the eyes, the latter have done their due amount of work without ever causing the slightest annoyance.

CASE 2.—The ten-year-old boy B. came under my treatment October 2, 1878, for progressive myopia and asthenopic trouble, with the following condition of his eyes: Right eye, M. 1-16, V. 15-70; concave 1-16, combined with concave cylindrical 1-36, 95°, increases vision to 15-30. Left eye, M. 1-14, V. 15-40; concave 1-14, combined with concave cylindrical 1-24, 105°, increases vision to 15-20. The parents of the boy are highly myopic, and there is myopia in the respective families.

A three months' treatment by means of heurteloups and atropine had the effect to increase vision to 15-12 in each eye and to remove myopia and astigmatism. In spite of the many hurtful influences to which his eyes were subjected, the latter gave no cause of complaint until the fall of 1882, when symptoms of asthenopic troubles and of irritation developed in conjunction with the reappearance of myopia. Examination, made December 4th, revealed: Right eye, vision 12-50, with concave 1-24, V. 12-30, combined with concave cylindrical 1-36, 90°, V. 12-20. Left eye, V. 12-100, with concave 1-10 respectively 1-9, V. 12-50, combined with concave cylindrical 1-30, 90°, V. 12-20.

A two weeks' use of duboisine and perfect rest of the eyes improved somewhat the condition, but treatment proper had to be deferred until the summer vacation. June 25, 1883, examination showed: Vision of the right eye 12-50, concave 1-18, increases vision to 12-30; concave 1-18, combined with concave cylindrical 1-20, 125°, increases vision to almost 12-15. Vision of the left eye 12-200, concave 1-8, increases vision to 12-50; concave 1-8, combined with concave cylindrical 1-16, 105°, increases vision to 12-20. Weakness of the internal muscles, marked retinal hyperæmia. Region around the macula lutea slightly suffused.

The use of duboisine and heurteloups, and perfect rest of the eyes gradually led to perfect recovery. The final result, noted October 3d, was: Right eye, V. 12-12; it bears concave 1-70, but not concave 1-60. Left eye, V. 12-15, concave 1-45 up to 1-36 increases vision to 12-12. With both eyes (without the use of concave glasses), vision is 12-10. Astigmatism entirely vanished. Equilibrium of muscles restored. Retina normal.

CASE III.—The fourteen-year-old boy W. was brought to me December 27, 1882, on account of asthenopic troubles and weakness of his eyes. Examination showed: Vision of the right eye 12-50; convex 1-70 up to 1-42 increases vision to 12-20. Vision of left eye 12-40; convex 1-60 up to 1-42 increases vision to 12-20. Cylindrical glasses do not improve vision. There is marked spasm of accommodation.

My proposed course of treatment was not agreed to at the time. The boy continued working until March, 1883, when his eyes failed totally. He resorted to another oculist, who ordered him the following glasses for near work: *Concave 1-40, combined with concave cylindrical 1-36, 120°, and prism 2°, base inward for each eye.* They acted at first like a charm, and patient was able to continue his studies for a few weeks, but then the condition changed to the worse. A modification in the glasses—*concave 1-30, combined with concave cylindrical 1-36, 120°, and prism 3°, base inward for each eye*—ordered by the same physician, proved without avail. The slightest effort of accommodation provoked the most agonizing headaches, nausea, and even vomiting; vision became as bad for distant as for near objects; the general health suffered considerably. Patient lost flesh and appetite and became of very irritable temper. In this condition he was intrusted to my care, June 28th, after a treatment for dyspepsia had proved a total failure.

The examination showed: Vision of the right eye 12-70; concave 1-20 increases vision to 12-40; concave 1-20, combined with concave cylindrical 1-20, 105°, gives vision 12-20. Vision of the left eye 12-100; concave 1-18 up to 1-16 increases vision to 12-50; concave 1-18, combined with concave cylindrical 1-30, 110°, gives vision 12-20. Medium small print (Jaeger 8) is read with great effort, the book being kept close to the eyes and askant to the visual line, the head turned on the vertical axis somewhat to the left. The lids are in constant nictitation, with intervening spasmodical contractions. There are marked lachrymation and photophobia. Both retinæ show intense venous congestion.

The same treatment as has been described in the second case gave, October 2d, the following result: Right eye, vision 12-10; left eye, vision almost 12-8. Both eyes bear convex 1-60, but not a higher number. With both eyes (without the use of glasses), vision is 12-8. With the help of convex 1-60, vision reaches almost 12-7. No trace of astigmatism. All disorders vanished. General health good.

Miscellany.

THERAPEUTICAL NOTES.—*Chloral as a Purgative.*—Writing in the "Gazzetta Medica Italiana, Provincie Venete," Dr. Bonatti speaks highly of the use of hydrate of chloral as a purgative in cases of obstinate constipation in insane persons, after jalap, croton-oil, and other drastic cathartics have been used without avail. He gives the chloral in doses of two or three grammes (thirty to forty-five grains), dissolved in a draught of infusion of senna. It is said to act rapidly.

The Quinine Treatment of Whooping-Cough has been made the subject of renewed investigation by M. Poskin ("Annales de la Soc. méd.-chir. de Liège," Aug., 1883), who has compared it with the methods of treatment by the bromides, by belladonna, and by emetics. In twenty-eight cases in which he employed the tannate of quinine he found that it invariably shortened the spasmodic stage, and diminished the intensity of the paroxysms. He does not agree with Binz that its action is that of a parasiticide, nor does he regard it as a specific. He prefers to give large doses toward evening, all within the space of half an hour. For children he uses the tannate, but for adults the sulphate.

Phosphate of Codeine.—The ordinary salts of codeine, the sulphate and the chloride, in spite of the gentleness of their action and the comparative freedom of the patient from disagreeable after-effects from their use, have practically been found inconvenient on account of their difficulty of solution in water. At the suggestion of Professor Hegar, of Freiburg, Merck, of Darmstadt ("Memorial," 5, 1883), has succeeded in making a phosphate which seems to be free from this objection, for it dissolves in four parts of water, the solution containing seventy per cent. of the alkalioid.

ARTIFICIAL OYSTERS are supplied to the Paris markets, according to a *feuilletoniste* of the "Union médicale." They are colored by means of copper, and are cemented to the interior of old shells.

Lectures and Addresses.

A MEMOIR OF

DR. JAMES R. WOOD.*

By FREDERIC S. DENNIS, M. D.

MR. PRESIDENT AND FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE: We have met this evening to consider the work and character of a man to whom American surgery owes much—James Rushmore Wood. It is only a little while since he died, and the impress of his genial, earnest, determined personality is fresh on all our hearts. He was loved, as well as respected and trusted, and, while memory and reason endure, this friendly affection and the sense of personal loss created by his death will continue. It is almost a sacred duty that we are called upon to perform. During Dr. Wood's illness his mind, released from those rigid restraints of reason to which it so readily yielded during his life-time, sought this hall. Again, in his disordered fancy, he was speaking here, as you have so often heard him speak. This honorable and venerable Academy thus stood to him, in the passing delirium of those last hours, as a trusted friend, the old homestead, or a dear child often stands to other men. His mind reverted to it under the pressure of a native and constitutional instinct. He lived in the great profession to which all his powers were devoted, and from which he was taken while still a worker, and to this place and to this platform, as the visible representation of the successful efforts of American medicine and surgery to diminish pain and to prolong life, his dying thoughts fled in touching obedience to original impulse and the need of kindred association. There was perfect fitness in all this. With this society more than with any other he was personally identified. Under the auspices of this Academy Dr. Wood made his most valuable literary contributions to the profession. In this room and upon this platform he made his last public address. It is therefore pre-eminently proper that we should consecrate *here* to his memory, out of our respect and love for him, a perpetual token, which will endure, which is sincere, which is spontaneous, and which, as it reveals his familiar lineaments upon the painted canvas, also shows our innermost thoughts of him.

James Rushmore Wood, M. D., LL. D., was born at Mamaroneck, N. Y., on the 14th day of September, in the year 1813. He was the only child of Elkanah W. Wood and Mary Rushmore, both of whom were Quakers. The father was a miller, and the little family remained at Mamaroneck until the baby was two years old. In 1815 Mr. Wood moved to New York city, establishing himself and family at No. 13 Jacob Street, where he kept a finding and cut-leather store. Later, the family lived on the corner of Frankfort and Pearl Streets, where Mr. Wood opened a drug and herb store. During his boyhood James was very delicate, and on this account it was the family custom for many years to send him for the summer to an aunt's, who lived

at Half Hollow Hills, in the neighborhood of Deer Park, on Long Island. As a lad he was fond of fishing and shooting. Singularly enough, in those early years he spontaneously formed the habit of preparing the skeletons of fishes and birds, and thus collected quite a little museum. His natural inclination for anatomy colored and determined the sports of the boy. Indeed, it is altogether reasonable to say that the sports of the boy determined the vocation of the man. His early and original taste for anatomy without doubt directed his attention toward the study of medicine; and in the rude and trifling museum of his boyhood we can see the germ of that magnificent product and monument of his later years, the Wood Museum of Bellevue Hospital. Dr. Wood never enjoyed a college education. His meager schooling was obtained at the Friends' Seminary, a little institution which was under the direction of the Quaker meeting-house in Pearl Street. In this place he received his early and his only academic education. Upon leaving the Friends' school, he entered, in 1829, upon the study of his chosen profession. It was at this time that his mother died. There is a tradition that his mother had some preferences for the ministry as a vocation for her boy. This often happens in the case of loving mothers of delicate and only sons. But the young man's instinct was *surer* than his mother's wish. He ministered to the soul through the physical environment of the body with a power and a capacity that she never dreamed of, and by a different route, but one upon which he was always at home, he became a "good physician" after all. His preceptor was Dr. David L. Rogers, who was called the "Mott of the eastern side of the town." At that time Dr. Rogers had thirteen students, two of whom are still living—Dr. Murphy, of Mount Vernon, N. Y., and Dr. Whitney, of Norwich, L. I. By a happy chance Dr. Wood met these two student-associates at a railway station a short time before his death, and the three spoke of their survival and the incidents suggested by it.

Dr. Wood attended his first course of medical lectures at the College of Physicians and Surgeons, which was situated at that time in Barclay Street, during the winters of 1830-'31 and 1832-'33. In 1833-'34 he went to Castleton, Vt., where in 1834 he was graduated; and soon afterward he was appointed Demonstrator of Anatomy by the late Dr. Alden March, of Albany. Very soon after his graduation he began the permanent practice of medicine in New York city, his first office being situated in the Bowery near Grand Street, and his partner being a Dr. Sibley, who was a student with him at Castleton. It appears that he had practiced medicine here under a license before being graduated, which was not an unusual thing to do in those early days. Hence his name appears in the city directory as a physician some few years before the date of his graduation. He had not been settled long in this office before the building containing it was burned, involving the destruction of all his books, instruments, and specimens. This was a very serious loss to him, occurring as it did at the outset of his career. This fire led to his removal from the Bowery to 67 East Broadway, and soon afterward to 77 East Broad-

* Read before the New York Academy of Medicine, January 3, 1884.

way, his business at this time already having become large. He lived at 77 East Broadway until 1853, when he was married to Miss Emma Rowe, daughter of Mr. James Rowe, a retired merchant of New York. He then moved from 77 East Broadway to No. 2 Irving Place, where he resided until 1865, when he moved to No. 80 Irving Place, where he was living at the time of his death. At that time his family consisted of Mrs. Wood, one son, Mr. James Rushmore Wood, and two daughters, Miss Ida Wood and Mrs. Bell, wife of Mr. Louis V. Bell, a son of Mr. Isaac Bell, who married a daughter of the late Dr. Valentine Mott. One child died in infancy.

In a brief memoir suitable for the Academy it is impossible to trace Dr. Wood's remarkable professional career step by step. Neither is it necessary. His public honors and his hospital appointments, for example, are well known to this audience. I have, therefore, determined to consider some of the more important features of his professional work, since, by looking at these, we shall be able to arrive at a just estimate of his capacity, and to form some conception of the variety and quality of his labors, and the height to which he attained in performing them.

Dr. Wood was a wise founder in the matter of medical instruction, he was an apt and sympathetic teacher, and he was a great surgeon. What he did in any one of these three lines of effort would have entitled a man to the gratitude of posterity; but, carrying on all three, as he did, with equal ability and success, we may unshrinkingly forestall the instructed judgment of those who are to come after us, and say that Dr. Wood's work, both for quality and utility, will always take an honored rank among the best. In order to understand the vital relations which Dr. Wood sustained toward Bellevue Hospital from the beginning, it is necessary to consider the early conditions out of which that time-honored and renowned institution sprung. Before 1800 the ground upon which Bellevue Hospital now stands was an open park. The place itself was called "Bellevue," on account of the engaging prospect along the river front which the park commanded. There the traffic on the swift-flowing currents of the East River had for a background the soft greens and grays of the open and unused country on the farther shore. This park was surveyed and purchased by the Common Council, which erected the almshouse, and such eleemosynary institutions as now are found on Blackwell's Island. These buildings at that time all stood together in this park. Previous to 1846 Dr. Wood was a great politician; but he was unlike most politicians at that time and since in the particular that he never sought a public office, and could not be persuaded to accept one in any circumstances. His natural political enthusiasm and his indefatigable efforts in the political work of the times brought him into personal relations with the politicians, among whom and with whom he was an influential source of power. For example, his admiration for Henry Clay was unbounded, and they were warm personal friends. Clay used to visit at Dr. Wood's office in East Broadway on the most intimate terms; and among the many valuable souvenirs received from Clay was the cane which Dr. Wood carried on special occasions to

the time of his death. Now, this was the state of affairs in regard to the institutions in the open park, and this was the political relation which Dr. Wood held toward those in power in New York city; and, by the ordinary process of human action and reaction, Dr. Wood was finally instrumental in securing control of these institutions. He saw in the almshouse and the other institutions a vast quantity of clinical material for medical teaching. He endeavored, with others assisting, to get control of this material for the purpose of medical education. He succeeded in inducing the Board of Aldermen to appoint ten governors to manage these institutions. This was brought about, and Drs. Parker, Metcalf, and Wood were appointed as a board of medical men.

Dr. Reese, the resident physician, was dismissed; a warden was appointed; the medical board was enlarged, and the hospital now known as Bellevue began to be managed as it is to-day.

Dr. Wood, from the beginning of his connection with Bellevue Hospital in 1847, began to collect post-mortem material with the intention of founding a museum. As an aid in the accomplishment of this object he offered prizes for the best anatomical dissections; and, after accumulating specimens for nearly twenty years from his private and hospital practice, he presented the collection, in 1856, to the Commissioners of Public Charities and Correction. From the time of its acceptance by them to the day of his death his interest and enthusiasm for it remained unabated. He daily visited the museum, supervised the completion of the catalogue, and personally directed every improvement. It was his ambition to make the museum, which bore his name, as complete and exhaustive as possible in every department. He desired to leave behind him this collection as a monument of his indefatigable zeal and unflagging interest in pathological anatomy. Dr. Willard Parker lately remarked that the "Wood Museum," as it now stands, was the grandest monument ever erected to any surgeon in this country; and the London "Lancet," speaking of its rich collection of unique specimens, said: "It is not a little remarkable that this museum, like our own Hunterian, owes its origin to a distinguished surgeon whose work is known all over the world, including especially some of the most beautiful and successful instances of operation for the reproduction of bone."

Dr. Wood's interest in pathological anatomy did not impair his enthusiasm for clinical medicine and surgery. Having obtained possession of the dead material for the purposes of scientific research and inquiry, the sequence was a logical one to the appropriation of the living material around him for medical teaching. To this end Dr. Wood devoted his energies, and the result was an appropriation of public money by the commissioners for the erection of a building for medical instruction. That edifice was called the pathological building, and is, in part, the main structure of the museum to-day. It was here that Dr. Wood began his first clinics. With the house staff and one person only as an audience at the outset, his clinic grew until at the time of his death the audience oftentimes numbered nearly a thousand. The opening of this building for medical teaching was an important event, foreshadowing the estab-

lishment in 1861 of a chartered school of medicine, which Dr. Wood, with the co-operation of three other medical men, had succeeded in creating, and which has grown steadily in its influence until it has reached its present degree of prosperity.

Dr. Wood was foremost in the view that medicine is a science pre-eminently of demonstration as well as of observation, and it was the union of clinical and didactic teaching that in his opinion best attained the object of medical education. This twofold principle of teaching was an abiding rule of his life; and he always endeavored to demonstrate to others what he had acquired by observation and study. The gradual growth and completion of the system of joint clinical and didactic teaching owe, in great part, their parentage and nurture to Dr. Wood.

As a skillful surgeon and experienced operator Dr. Wood stood in the foremost rank of American surgeons. In dexterity he had no superior in this country. His fame as a beautiful, quick, and sure operator was thoroughly well known throughout the land. Dr. Francis has happily and accurately described his methods as follows: "Dr. Wood is bold, free, confident. Cutting well either with his left or right hand, he performs the most serious operations with becoming skill and with the happiest results. It has not been so much his desire to originate new practices as to improve on old ones, and, by a careful ratiocination, to arrive at important issues." Dr. Wood's great celerity as an operator was of immense advantage to him before anæsthetics were introduced in surgical practice. He has amputated a thigh in nine seconds; and this wonderful rapidity of skilled manipulation often determined in those days the success of an operation. The necessity of operating rapidly has now been done away with through the modern resources for arresting hæmorrhage and annihilating pain.

As a *hospital* surgeon, Dr. Wood has a most enviable reputation. His hospital operations were brilliantly successful. The magnificent results which he obtained were due to the unflagging interest, unflinching energy, and untiring watchfulness which he displayed in the treatment of his hospital cases. No house surgeon ever served under Dr. Wood who did not feel that his success was due to his indefatigable care. The night was never too cold nor too dark, the day never too inclement, his professional engagements never too numerous, to draw him away from his *hospital* duties. He visited Bellevue regularly and irregularly, and frequently many times in the day unexpectedly. By day and by night, month after month, and year after year, Dr. Wood was always at his post; and he loved Bellevue and her interests. Every member of the hospital house staff felt that in Dr. Wood he had a true friend; and he was appealed to by them in every emergency, and always responded in their behalf with the weight of his influence and power. Even the students sought his kindly help, and none ever applied to him in vain. It was this unflinching good feeling on his part toward the students that made him so much beloved and honored by them. His great familiarity with the routine and executive work of Bellevue in every department made him its recognized and official head.

Nothing could be done there which escaped his notice; he was aware of everything, and his name became so identified with the executive management of this renowned hospital that all tacitly, if not openly, conceded to him the authority with which tradition had invested him. From the visiting staff to the house staff, from the executive head to the most insignificant employee of Bellevue, all conceded his right to dictate, his power to interfere, and his influence to control.

Dr. Wood's success as a hospital surgeon was clearly due to his watchfulness after every operation. He scrutinized everything, he watched every symptom, and, by this painstaking espionage, he was on the alert to detect and to combat at once any unfavorable sign. He was clinically precise, and strictly conformed his plan of treatment to well-recognized and thoroughly established rules of surgery. He believed conscientiously that good results were only to be attained by conforming to certain fixed precepts. He was punctilious to a fault in the matter of surgical cleanliness, and never permitted his surgical dressings to have the slightest suspicion of uncleanness. He impressed upon his students and his house staff the one maxim, that surgical cleanliness is the *sine qua non* of surgical success. He was scrupulously particular about the employment of any agents in his dressings which might possibly carry infection. In late years he never used a sponge, not even during an operation, but always pieces of sheet-lint soaked in carbolic acid, and these extemporized sponges were destroyed after the operation.

Rest, cleanliness, and free drainage were the special agents he employed in his treatment of wounds. He considered the smallest detail in dressing a necessary condition to the success of the case. Nothing was too trivial, nothing too insignificant, to escape his eye; and he enforced with rigid exactitude the carrying out of details which to some appeared superfluous. His exactions in the matter of surgical dressings would appear, to one not familiar with his ways, as almost absurd. But no one ever worked in co-operation with Dr. Wood, or under his direction, who did not concede that he was right. He would seem at times to those working under him to be unreasonable in his demands, but, in fact, he was wholly absorbed in the patient's welfare and the advancement of the science of surgery. Every one associated with him, in the capacity of a student or an assistant, came to understand that his military precision and his inflexible determination to have no possible precaution omitted were due to the just importance which he attached to the work in hand; and he rightly judged that, in order to secure the proper attention in important cases, it is necessary to require it in *all* cases. Stern and unyielding upon this professional side, he always carried with him the warm and helpful human side, which those associated with him freely sought, and not in vain. He was singularly acute in his perceptions of the nature of a patient's disease. He had great powers of clinical observation; he possessed wonderful diagnostic faculties; and oftentimes he would detect something which would appear trifling to observers, but which would immediately throw light upon the case.

The literary contributions which Dr. Wood made to

medicine and surgery were not numerous, but the few were of great practical importance.

In 1845 he published an article on Strangulated Hernia in the "New York Medical and Surgical Reporter."

In 1847 he contributed a paper on "Spontaneous Dislocation of the Head of the Femur into the Ischiatic Notch occurring during Morbus Coxarius." Dr. Wood showed in this monograph that these dislocations were very rare, and that they were not really dislocations; but he attributed all the signs of dislocation to organic changes in the form and relations of head, neck, and great trochanter of the femur, as well as of the acetabulum. He had beautiful specimens to illustrate his point, and the only ones in any museum in this country or Europe.

In 1848 he published an essay on medical education, in which he urged a higher standard of study. He argued that this could never be brought about by individual effort, but only through some great and controlling body, like the American Medical Association, which represented the various interests of the entire profession.

In 1856 he wrote a brochure upon the subject of "Ligature of the External Iliac Artery followed by Secondary Hæmorrhage." He pointed out the fact that up to that time there had been only fourteen cases of ligation of the external iliac in which secondary hæmorrhage had occurred, and, of these fourteen, ten had died and four survived, his own case being numbered in the list of recoveries.

In 1856 he wrote a pamphlet upon "Phosphorus Necrosis of the Lower Jaw." In this article he presented his views upon periosteal surgery, upon which he had been working for ten years previous to the date of the publication. The regeneration of the jaw by the periosteum was Dr. Wood's most celebrated achievement in surgery; and occurring, as it did, in the early days of periosteal surgery, it may be justly considered as one of the triumphs of American surgery.

In 1857 Dr. Wood published a little work on the "Early History of Ligation of the Primitive Carotid," and included his own nine cases (up to that date) in the report of forty-eight unpublished cases. In this exceedingly interesting paper he made a careful analysis of previous statements upon the subject of ligature of the carotid, and added certain important facts to our previous knowledge concerning it. He shows in this paper that, while the carotid artery had been tied on two or three occasions for hæmorrhage prior to 1803, these cases were never published until after the operation had become a recognized one in surgery; and that our own countryman, Cogswell, of Hartford, tied the artery with only eighteen days intervening from the time of the European operation, and without any knowledge of its ever having been tied. He shows, also, that, while Sir Astley Cooper, in 1805, first tied the artery for aneurism, the patient died, and that the year 1807 records the first successful ligation of the artery for aneurism by Amos Twitchell, of New Hampshire. He thus established for American surgeons a claim which honors our country, and which, indeed, it possesses through the investigations and writings of Dr. Wood.

In the surgery of the *arteries* Dr. Wood's record is in-

deed brilliant. He has ligated the carotid many times for the cure of aneurism, and in one case the carotid and subclavian of the same side, and he has by this procedure successfully cured an aneurism of the *arteria innominata*. In the early days of his professional life he tied the subclavian artery five times in succession, and in every case cured the aneurism. He has also ligated these arteries many times since, but no definite history is left of these cases. He tied for aneurism the external iliac eight times in succession, and cured the aneurism in each case. One patient died, shortly after the aneurism was cured, from uræmic convulsions. The specimen of the obliterated sac is preserved in the museum. Dr. Wood also tied the femoral many times for other causes than aneurism. He resorted to this operation in malignant disease of the knee joint, of the femur, of the tibia, also for acute inflammations of the knee joint with perforating wounds, and finally twice for elephantiasis. Dr. Wood was among the first to cure aneurism by digital compression, and, in 1848, a few months after Dr. Knight's first case, Dr. Wood reported one of his own. He also cured several cases previous to his death by Esmarch's elastic bandage. His success in the treatment of aneurism by well-recognized and by his own methods is indeed an enduring monument to his name.

In the surgery of the *nerves* he was very successful. Among his best operations in this department may be mentioned the removal of Meckel's ganglion with the superior maxillary division of the trigeminus, which he did four consecutive times for the relief of *tic douloureux*, and with the most gratifying results. Dr. Wood did nearly one fourth of all the cases operated upon in the world previous to 1879, since which time the operation has been repeatedly performed. Dr. Wood assisted Dr. David L. Rogers to perform tenotomy upon the tendo Achillis in 1834, and Dr. Wood was among the first to divide the *masseter* muscles in 1840. He also devised the operation of division of the peroneus muscle in chronic dislocation of the tendon, and, as far as I can ascertain, was the first to devise and to treat acute and chronic inflammations of the knee joint by division of the ham-strings and tendo Achillis, with the view of giving the joint absolute rest.

Dr. Wood was also among the first in America to perform resection of the shoulder and elbow joints. The knee joint he resected frequently, and with brilliant results. He has six beautiful specimens of osseous union of the femur with the tibia after resection. The specimens he was able to obtain in some cases several years after the operation. These specimens are still in the museum.

In the periosteal reproduction of bone, Dr. Wood had an international reputation. His museum contains some of the richest and most valuable specimens to be found anywhere in the world. In 1877 Dr. Wood, in response to an invitation from the president of the German Congress of Surgeons, sent some specimens of reproduced bone to Berlin, to be exhibited along with other specimens collected from all parts of Europe. The regenerated lower jaw awakened great admiration among the German surgeons; and the renowned Langenbeck, in his address, said "that he did not believe a corresponding preparation really existed any-

where," and he presented the specimen with the remark that "there was not another such specimen in the whole of Europe as I now show you." This was, indeed, a fitting tribute from one of Europe's greatest surgeons to the genius of one of America's greatest operators.

The London "Lancet," in referring to this celebrated specimen, said that "Dr. Wood is entitled to the great praise of having been one of the pioneers of peritoneal surgery, and the merit of it consists not only in having been then a new kind of operation, but in the details of the procedure, which had to be thought out for the first time, and which have since become recognized principles."

In *genito-urinary surgery* Dr. Wood was known as a lithotomist. He revived Dupuytren's operation of bilateral section of the prostate, and devised an instrument known as Wood's bisector.

He was among the few American surgeons who performed external perineal urethrotomy prior to the year 1840. He removed on two occasions, over forty years ago, renal calculi from patients by incision, and, although the cases never were published, they antedate many operations of the kind in which surgeons have recently claimed priority.

In *abdominal surgery* Dr. Wood achieved great success. The last time that his voice was heard from this platform was in reply to a paper presented by the lamented Dr. Sims, whose distinguished career is considered here to-night in company with that of his opponent in the debate. The propriety of opening the peritoneal cavity in gun-shot wounds was suggested by Dr. Sims, *apropos* of the Garfield case. Dr. Wood, in reply, presented some very cogent arguments against this procedure, and placed great stress upon the fact that opening the peritoneal cavity for ovariectomy in a patient prepared for the operation was altogether a different procedure from opening the peritoneal cavity in a case of gun-shot wound with the accompanying shock. In ovariectomy the shock comes after the operation; in gun-shot wound of the abdomen, the shock is present before, as well as after, the operation.

In the department of *gynecology* Dr. Wood's name is less familiar. He believed that these operations, where necessary, could be performed better by the gynecologist than by the general operating surgeon. Although he did many operations in abdominal surgery, ovariectomy was never performed by him. Perhaps the reason why he never did an ovariectomy may be divined from an incident which occurred in his student days, and which he related to me a few years before his death. He assisted Dr. David L. Rogers on one occasion to perform this operation. When they arrived at the patient's room, they found her just in the act of pushing a barrel of flour into her room from the hall, and this barrel of flour she had alone, by herself, succeeded in lifting and pushing up to the fourth floor from the pavement below. The patient was immediately operated upon, and in a few hours was dead. This incident, of a woman who was well, and had strength enough to complete such a task, and of her dying in a few hours after an operation which in those days was considered scarcely justifiable, made such a lasting and profound impression upon

Dr. Wood's mind that he resolved then and there that he would never perform ovariectomy; and this resolution, formed by him in the circumstances just narrated, he kept throughout his entire life. It is right, however, to add that he overcame his early prejudices, and became an ardent advocate of the operation in the hands of those who were skilled in its performance. One of the last operations he witnessed was at the Woman's Hospital, and performed by my esteemed colleague, whom this night you will hear on behalf of another whose name is famous in this department of surgery.

One of the most important acts of Dr. Wood's professional life had to do with the Dissecting bill, which he, with Drs. Parker, Payne, and Mason, succeeded in getting passed as a law. They saw that the demands of a higher education called for material for dissection, and that an enlightened regard for humanity justified the step. Finally, after four laborious years, they accomplished the work by embodying, in the form of law, that "all vagrants dying unclaimed, and known by the public authorities to be such, and without friends, are to be given to the institutions in which medicine and surgery are taught."

Dr. Wood's work on behalf of the Bellevue training-school for nurses was the outcome of his great desire to further any measure whose object was to alleviate the suffering of the poor. He was the true and faithful friend of this project in its early struggles; and, in conjunction with Professors Austin Flint and Stephen Smith, was instrumental in establishing the school, and in bringing this system of nursing into Bellevue Hospital. He took an active part in the organization of the school; and, though opposition surrounded it at first, he was its champion; and to him are due in great part the incalculable blessings which result from such a charity. The officers of the training-school applied to him for a solution of the perplexing problems continually arising; the nurses themselves looked to him as their benefactor and friend; and the magnificent bed of violets, in multiplied recognition of his own love for that dainty flower, which he always wore summer and winter, which was presented by them against his burial, and which was placed upon the coffin, silently expressed in the most touching way the affectionate and lasting esteem in which he was held by them.

How, now, shall I sum up this surgeon and founder whom we have been considering? The characteristic qualities of his life, the principal exploits of his professional career, are before you. All of you knew him more or less. It is easy to see that the reputation that Dr. Wood attained—although wider than that in store for many of us—is not of overshadowing dimensions. Sheridan's cavalry ride from Winchester made more stir in the world than the most difficult and brilliant of Dr. Wood's operations in surgery. It is obvious that the surgeon must look for his professional immortality to a small and select class. He must be content to be thought highly of by a chosen, educated few; and, in respect to his most important work, he must be content with the appreciation of his professional brethren. As one of this body, I should say that Dr. Wood has done a good work in the world, and that, both as a man and a sur-

geon, he had fully earned the immortality of professional recollection. In this chamber his memory should never wither. In the constructive work of educational opportunities and methods he set in motion forces which will never grow less, but rather greater. What he lacked when a student he has effectively helped to provide for those who are now seeking the field of medical science. As an instructor, he brought clinical and didactic information together in fruitful union. Tradition will long preserve his unsurpassed skill at the operating-table. His contributions to surgical science are permanent. As to the charm of his manner, and the loving regard in which those held him who knew him best, the circumstances of his burial afford ample testimony.

The rich and the poor gathered together to bid our friend, who had done so much for suffering humanity among both the rich and the poor, the last farewell. What was felt then and now Dr. Gross has happily expressed in a personal letter, from which I am permitted to quote: "I felt personally a warm attachment for Dr. Wood. I loved him for his charming social qualities, his kindness of heart, and the uprightness of his conduct in all the relations of life. In his death I felt that I had lost a kind friend, and that another link in the chain of my life is broken. The whole American medical profession will share my regrets, for Dr. Wood was one of its most beloved members and one of its brightest ornaments."

Dr. Wood passed away in the unabated possession of his powers. His death was an interruption. It came to him in all the wonderful activity of his professional life, but it came, as he always expressed the wish that it should come, while he was still working. As it was, he had got through with an immense volume of work. For almost half a century he had been busily toiling for humanity. In private practice, in the hospital, at his office, he had confronted disease and pain. He met these old enemies with new and original resources. That native and constitutional tendency of his mind which brought him into the profession gave him an insight into the subtlest manifestations of disease. He always did all that he could, and that was much. Such a life is a lesson and an example. Fortified by the high professional achievements of Dr. Wood, this life must leave its impress upon the whole American medical profession. Matthew Arnold, in one of his essays, remarks that Chateaubriand said of Joubert that "a man can live in the world's memory only by what he has done for the world." And so we may say that Dr. Wood deserves a good measure of the world's recollection, because in his work in the matter of medical education and systematic nursing he builded for the future as much as for to-day, and the effects will be lasting, rational, and useful.

THE DUPARQUE PRIZE will be awarded by the *Société de Médecine*, of Paris, in 1885, for the best essay on the pathology of the ovary, and especially oöphoritis. Competing essays, which must be written or printed in French, should be sent to M. le Dr. Thorens, 34 rue de Penitence, Paris, before the 1st of January, 1885, and they must not have been published more than two years before that time. As the prize was not awarded in 1883, it will amount to 1,200 francs, in addition to the gold medal.

Original Communications.

MIGRAINE.*

By C. H. HUGHES, M. D., St. Louis,

LECTURER ON NERVOUS DISEASES, ST. LOUIS MEDICAL COLLEGE.

MIGRAINE, or megrim, is ordinarily the periodical protest of cerebral over-tax in the acutely exhausted, comparatively young, brain of a mildly neurotic subject.

It belongs especially to the time of life—from early puberty to middle manhood—when emotional disturbances—fret and worry—most violently agitate and accompany the intellectual movements, and when the latter are most active and impulsive. It is a temporary disequilibrium between waste and repair in the higher cerebral centers, a comparative neurasthenia from mental over-strain which expresses itself in slightly neurotic subjects, like the outcry of an oppressed or famished nerve in neuralgia. It is not denied that it may be precipitated by other conjoint causes than cerebral over-strain, especially such as contribute to congest the head by exciting disequilibrium in the systemic circulation; but an hereditary tendency to weaken under a certain degree of over-strain on the part of the cerebral vaso-motor system, and the coexistence of that strain, which can not be resisted, constitute the essentials of an attack of migraine.

Migraine usually expresses itself unilaterally, because one hemisphere—and that on the left side, the driving hemisphere, as Ferrier terms it—gives out first, the hemisphere to which the heart's blood goes most directly.

Migraine is periodic (but not equidistantly so), because a certain stage of exhaustion must be reached—longer in some individuals than in others, and longer in the same person at certain times and under certain circumstances than others—before the mental machinery resists further goading and the outraged brain asserts its right to rest.

The migrated cerebrum, in refusing thus to be driven to further work, prescribes its own proper therapeutics—the involuntary rest which the mind is forced to take from accustomed labor and emotional commotion which is worse than labor. The timely recuperation which comes of this repose sooner or later re-establishes the normal equilibrium of recuperation and disintegration, and a reaccumulation of psychical force takes place; a sense of restored mental vigor is again felt by the patient, and eager impulses inspire him to expend it, and he goes along again normally, for a while, expending only the daily accumulations of cerebral force until the more or less nervous temperament of the megrim victim leads, sooner or later, to draught on the reserve nerve force of the cortex and to its final and rapid exhaustion, with a repetition of the previous experience as its sequel. With the lowering of the brain tone from over-tax, the cerebro-spinal dominion over the sympathetic nervous system diminishes; vascular excitations and contractions within the cerebrum, followed by vaso-motor paralysis and dilatations of vessels, and the meningeal pain of distension and pressure and increased, tumultuous, and rapid psychical activity, somewhat like that in the early stage of intoxi-

* Read before the St. Louis Medical Society, January 12, 1884.

cation, follow. Thoughts come thick and fast, till soon the cerebral exhaustion is complete. Sympathetic influences pass downward to the stomach, nausea and emesis frequently follow, and the bowels sometimes move freely. The coexistence of nausea followed by vomiting, and thus by sleep and final relief, has given to megrim the synonym of sick headache; the headache is not dependent upon the sick stomach, but the nausea is due to the sickness in the head. Megrim is indeed a very sick headache, but in another sense. If the vomiting continue long enough, the hemicrania will, of course, cease with the cessation of the vomiting; but, to make the vomiting effective, the stomach should be washed out with lukewarm water till it is empty of all solid contents, and then hot water of at least 115° F. should be given in from four- to six-ounce draughts every hour or two, till about twelve to sixteen ounces are taken. This may be made more acceptable by flavoring with some agreeable tea-leaves or herbs, the commercial tea from China being often acceptable if not made over-strong, and given without cream or sugar. If there should be a loathing for hot drinks along with the usual antipathy to food, then cooling draughts may be given, impregnated with five drops of creasote, or half a drachm of aromatic spirits of ammonia, or carbonic-acid water, or peppermint-water and a little bromide of potassium. The preferences of the stomach, as thus indicated, should be respected.

The hyperæsthetic special sensations all tend to secure that conservation of brain force so essential to the patient's speedy restoration, and their suggestions should be fully heeded in our management of this affection.

Nature, in these sensations, hints strongly at the rational restorative therapy, and such hints to the wise physician should be sufficient. Every movement increases the bodily discomfort, hence the patient asks to be let alone—to be undisturbed.

The hot, aching eyeballs and hot, painful head suggest evaporating lotions, the best of which are the ethereal for the head, and laudanum-and-water, of proper temperature to evaporate readily, for the eyes, for ether is painful if it gets between the lids. The sensitive retinae and troubled vision demand the exclusion of light; the morbidly impressible centers of audition make sounds painful and, in aggravated cases, unbearable. The salivary secretion is sometimes increased, more often altered and disagreeable. To heed nature's demands in these regards is to give the brain, as well as the sensitive centers and channels of audition and vision, the much-needed repose that leads to restoration of exhausted power which has tracked the parts it has forsaken with marks of irritability. The general listlessness and brain-weary feeling which the patient reveals as the painful feelings pass away (if the usual tendency to sleep then does not come on or is interfered with) demand further brain rest, and our therapy and surroundings for the patient should promote rest until an apparently complete restoration follows each attack.

The intervals of freedom from nervous headache should be prolonged by a course of tranquilizing neurotherapy calculated to promote and maintain the nerve stability and

by a moral prophylaxis. To this end the patient should be made well acquainted with the nature of his trouble and the essentials to avert its recurrence.

He should have a mild, unirritating course of constant cephalic galvanization in the interval, repeated daily or every other day, until he has passed the time of several attacks exempt from them. A full dose of ammonium or potassium bromide, 30 to 40 grains, and a minimum dose of arsenious acid, should likewise be given nightly, for many months, in many cases, and as often as three or four times a day for several days preceding the time of an expected attack. Bromide of potassium in forty-grain doses three times a day is of especial service, if the patient is brought fully under its influence when the first orbital disturbances appear, as they do in many of these cases. Guarana may be used to advantage at this time, and subsequently during the attack, but it has not given me the happy results others have ascribed to it. The digestive and assimilative processes are never to be lost sight of, nor any other physical condition calculated in any manner to embarrass the mental movements—to directly or reflexly irritate the brain or to compromise its normal daily nutrition and nightly rest. Beseating sins and moral and physical vices that tend to organic or nervous exhaustion should be inquired into and remedied by discontinuance.

During the attack of migraine the bromides, if the stomach can be made to retain them, are always serviceable, and I give them in large quantities of peppermint-water and minimum quantities of creasote.

In the constitutional treatment of migraine, plenty of pure fresh air and sunlight and a nutritious and digested or digestible and easily assimilated dietary are the best tonics. Spinal and epigastric sinapisms are also of value, and anodyne rubefacient liniments, as of chloroform or camphor and the volatile liniment, with turpentine, capsicum, and oil of peppermint.

A predisposition to attacks of migraine is sometimes awakened by anæmic, cachæmic, or toxæmic states of blood, which especially interfere with normal nerve nutrition in the neurotically inclined. In the first state of the blood the hæmic reconstructives should be mostly ferruginous; in the second ferruginous and specific; in the latter mainly specific, conjoined with good food easily appropriated by the system, which is indicated in all impoverishment of blood. Quinine and arsenic in malarious districts, whether the patient have the usual visible malarial symptoms or not; mercury and potassic iodide in syphilitic migraines (such subjects do have migraine as well as the specific, constant cephalalgia); iodide of potassium and iodine in the migraine of lead-workers; iodine and iron for the scrofulous. Strychnine, arsenic, and cod-liver oil are seldom contraindicated in the anæmic, though the stomachs of many patients revolt at the oil, and it had better not be urged on them. Many subjects of migraine, however, are not anæmic, and some are actually habitually hyperæmic, so far as the head circulation is concerned, and their life habits are such as to keep up an exalted cerebral blood pressure; and, though migraine is to such the most fortunate circumstance that could happen them in putting periodical stops to their over-work and excessive worry, and enforcing resting spells at times in their

over-active careers, they often finally die of grave cerebral affections after they have reached the period when excessive keenness of sensibility, emotional and sensory, ceases. But migraines, like constitutional neurasthenics, are often also long-lived, and not especially liable to grave cerebral disease.

The mistake that has been made in the medical conception and consequent management of migraine consists in its having been regarded as a *want* rather than as an *over-draught* of cerebral power and consequent abrupt collapse in those who, fortunately, are prone to this collapse from exhaustion, short of destructive cerebral lesion. These patients become cerebrastrhenic before brain structure gives way, while others not so hereditarily inclined go on till stopped by apoplexy or aphasia. Subjects of migraine are usually among the milder class of the neurotically endowed, and they do not often have, or congenitally entail, the graver neuroses.

In consequence of this mistake, a coercive tonic plan, so called, but often more stimulating than tonic, has been thought generally the best, whereas the majority of migraines require repression and regulation of their nervous forces; the maintenance, by corrective restraint medication, of a judicious equilibrium in their mental movements, so as to balance daily the cerebral waste and repair. They need to be taught and medicated so as to stand life's frictions, so as to give their brain a reasonable chance for rest and repair, their stomach a fair opportunity to do its work and answer the encephalon's prayer for daily sustenance. They need a physician to constantly advise and regulate them, as they need an attorney in their business affairs to keep them safe from financial shipwreck in many of their ventures.

The business maxims, "never to postpone for to-morrow what ought to be done to-day," and "never to wait for the next train if, by any possibility, the train that has gone can be caught," should be modified to read, "what *ought* to be done to-day, only without violence to your organism, should be done"; and if to-day's train can not be made without over-strain to the system, which may be the beginning of a subsequent breakdown of the cerebro-spinal system, wait for the next train and save yourself.

Migraines, in their best physiological condition, are mentally active, and prone to over-work under business stress. They are ambitious and restlessly inclined to constant endeavor, and seek occupations that readily lead to final over-strain, for when they are busiest they are always happiest.

The rational indications for preventing recurrences of attacks of migraine are repressive cerebral restraints and reconstructive medication. To this end the occupation of the patient should be regulated by his physician, and not alone the consequences of injudicious over-work treated. The nervous system should be tranquilized and the nerve-capital and brain-force economized during the longer or shorter interval between the attacks.

The patient's brain-power should never be squandered. The victim of migraine can not afford to be prodigal of his mental power; if he does, the end of his prodigality will be husks, and he will sooner or later realize that he has unpardonably sinned against nature. It will be fortunate for

him if, in his repentance, he seeks and finds a physician who, instead of goading by a stimulating treatment, represses, conserves and regulates his powers.

Migraine, with melancholic complication some time preceding or following the attack, justifies opium and aloes, or codeine and aloin; but in the habitual management of frequently recurring attacks it is a most pernicious practice to use opium freely enough to subdue the pain, and the same is true of the free use of whisky. Nature needs healthy rest, normal restorative tranquillization, and prolonged, healthy, refreshing sleep; not the enforced and fitful, dreamy somnolency or profound stupor of narcotics. If sleep does not come in due season with the administration of bromide of potassium or ammonium, chloral may be given in a thirty- or forty-grain dose, largely diluted, when the night-time comes on, or when the vomiting and nausea have about ceased. The bromides are good remedies for the precursory restlessness and fidgets; so also the tranquilizing warm bath, if that be at the time convenient to the patient, so that he will not be too much disturbed in being put into it. Valerian-root added to the bath is of value in the hysterical. Under this treatment the tingling sensations and temporary numbness disappear. Hot pediluvia, bottles, and sinapisms to the feet, also to the spine or stomach, are serviceable in arresting temporary vital prostration. The baths and the bromides serve also to tranquilize the heart and relieve the head by diverting the blood from them to the feet, for while the carotids are full the radials are small, and the peroneals and tibials are smaller. I have known the hemianopsia, which is a subjective phenomenon, due to encephalic sanguineous pressure, to disappear during the bath and to be averted by the bromide treatment preceding the coming on of the attacks, likewise the photopsia and photophobia.

Contrary to the statements of Latham and others, that bromide of potassium is more serviceable during the attacks than in the interim, I affirm that, if properly employed, so as to secure a restful state of the nervous system and a tendency on the part of the cerebrum, when not actively employed, to seek repose, its effect is decidedly beneficial in prolonging the intervals and shortening the attacks, and, finally, in preventing the recurrence of the latter altogether. To accomplish this end, the bromide must not be given to sanguineous saturation; and, to be enabled to rely on the smallest quantities of this salt, galvanism must be conjointly employed, and with persistent regularity, if bromism is shown either in eruption, or impaired motility, or cerebral stupidity.

The temporary cerebral hyperæmia of migraine is induced by defective vaso-motor innervation and consequent paralysis of control over the caliber of the cerebral vessels, which are thus allowed to produce a painful degree of cerebral distension.

The turgid brain even robs the face of blood, and the pupil contracts, not only because the retina is hyperæsthetic, but because of irritation of the ophthalmic ganglion and the origin of the third nerve in the gray nucleus in the floor of the Sylvian aqueduct.

It is astonishing how descending cephalic galvanization,

or galvanization over the cervical sympathetic center and under the ramus, and through the head, from the os frontis over the eye to the occipital spine, will cause these symptoms to disappear by the restoration of tone to the vaso-motor system within the head; but, to make the relief permanent, sleep must follow, and rest absolute to the brain as tired nature demands, until recuperation from the exhausting causes that precipitated the attack comes in the course of nature's benignant *vis medicatrix*, assisted by our art. These conclusions are not conjectural, but based upon a success in the management of migraine that has not disappointed, and have been satisfactorily verified in the writer's own person also.

The view of Wilks and others respecting the eradication of migraine is too discouraging and unjustifiably hopeless, due to neglect of suitable management in the interim of the attacks, just as frequently recurring hysterias are thus too much and too often neglected. One of my patients, formerly (eighteen years ago) a two-days victim to migraine prostration every fortnight, now and for fifteen years past has only occasionally (once or twice a year) a reminder in the return of the boring sensation over the eye or on the temple, which a prompt electrization and a drachm of bromide of potassium in peppermint-water cause to disappear. The rest of the treatment he has learned himself: it is to cease going so fast with his work for the time, and take more rest for a few days, and not to fret because he can not accomplish the work of two days in one.

I have encountered a form of migraine that sustains a relation to ordinary migraine, or migraine major, similar to that which *petit mal* bears to the *grand mal*, or epilepsy gravior, and it might justly be termed *hemicranii minor* or *minor*. It sometimes follows, like epileptoid, the graver malady, and sustains the degree of relationship that the simple vertiginous seizures due to the convulsive attacks, or, like the epileptiform disease, it may precede the *haut mal* of megrim.

The case just referred to is an illustration; a patient now under observation had for eighteen months periodic attacks of photophobia, slight photopsia and confusion of vision, cold feet, increased heat, and sense of fullness and slight pain in head, associated with general uneasiness and indisposition to exertion, lasting for several hours of a day in each month, sometimes oftener, if she used the sewing-machine to excess in making her own clothing, always a source of worry to her. The attacks no longer recur since the adoption of the treatment indicated for graver cases—the more moderate use of the sewing-machine and the relegation of her best dress-making to other hands. The making of a stylish dress is sometimes a great strain on a woman's mind. Migraine being self-limited in the duration of its attacks, as it is in its final recurrences, passing away with advanced age, if it does not develop into a graver malady, much of its former therapeutics has been misleading because the attacks have passed off pending the administration of certain drugs, which at best have been of secondary value. Such are valerian, camphor, hyoseyamus, asafoetida, Hoffman's anodyne, ether, etc. An attack may, however, be cut short with chloroform and camphor, or, preferably, chloral

and bromide of potassium, but the sleep which follows should be a prolonged one, and the patient should awake refreshed and in condition to receive, and must have, adequate nutriment to compensate for his exhaustive experience. If he does not, another attack will be likely to recur soon, unless the foregoing hints as to intermediate treatment are put into practice, and this the patient will not always acquiesce in; but migraine, in the intervals of the attacks, should be managed very much like the successful treatment of epilepsy. While relief during the attacks is desirable, it is all-important to the well-being of the patient to prevent their recurrence by intercurrent management.

Addendum.—The extemporaneous character of this paper precludes a full discussion of the asserted alliance between migraine and epilepsy; but there has been demonstrated no real pathological kinship between these two maladies of the nervous system, and the asserted connection between them can not be shown clinically, unless in exceptional instances. True migraine victims comparatively seldom become epileptics in later life, and the coming on of an attack of epilepsy or epileptoid and migraine are essentially different, the one being sudden, with momentary loss of consciousness, often with an aura, frequently in the night, but more often just on awaking from sleep in the morning, and often followed by headache; the other approaching gradually, never with loss of consciousness, generally preceding sleep, or passing away with it, or relieved by it, and never coming on after a profound sleep, as epilepsy so often does.

The general therapy of the two being quite similar proves nothing except that neurotic tranquillization and the balancing and conservation of force are equally valuable therapeutic procedures in each of these neuroses, and that tonicity imparted to the cerebral vaso-motor system, as by the minimum doses of nitro-glycerin, mild cephalic descending galvanism, etc., is equally efficient in warding off the tendency to recurring exhaustion, which in migraine appears to be in the cerebral vaso-motor system, while in epilepsy it appears to be primarily in the psychological or psycho-motor area of the brain, with secondary and rapidly following vaso-motor paralysis.

The hyperæsthesia of migraine and the anæsthesia of an attack of epilepsy are as opposite as consciousness in the one and the absence of it in the other. Headache is the sign essential of the one, while it is the sequel rather of the other.

The occasional beneficial effects of volatile inhalants and stimulants internally in the beginning of each, to postpone an attack, are due to their prolonging nerve tonicity, and preventing the vascular intracranial movement upon which the diverse phenomena of the two different morbid conditions depend. To abort epilepsy, nitrite of amyl, camphor, and the pungent ammonium salts must be inhaled in the very beginning of the aural stage; they are more or less serviceable at any time during an attack of migraine, except the amyl nitrite, the latter, which is the inhalant *par excellence* in epilepsy, often aggravating an established sick headache.

An epileptic subjected to the cerebral-vascular condition of migraine—the arteriole spasm and relaxation—would

always have epilepsy. There is an additional factor in epilepsias which is absent in the brains of migraines, viz.: a tendency to further morbid movement, reaching to unconsciousness and convulsion, founded in the organic constitution of the cerebral texture. Neither of these conditions belongs essentially to migraine, though, when the epileptic diathesis coexists with recurring migraine, the transition is easy and natural into confirmed epilepsy.

OSTEOPLASTIC RESECTION OF THE UPPER JAW FOR PROSOPALGIA; WITH THREE CASES.*

By ARPAD G. GERSTER, M.D.,
SURGEON TO MT. SINAI AND THE GERMAN HOSPITALS.

TOTAL extirpation of the upper jaw as a preliminary measure for facilitating the removal of massive nasal polypi was first successfully done by Syme in 1832 ("Ninth Report of the Edinburgh Surgical Clinic"), and, having been adopted by the then reigning French school of surgeons, remained the standard measure in the operative treatment of the above-mentioned disorder. The happy idea of a more conservative procedure was first conceived and successfully executed by B. v. Langenbeck, in the year 1859 ("Deutsche Klinik," 1859, p. 471), when he extirpated a large retro-nasal polypus through an aperture made by what he designated an osteoplastic resection of the nasal process of the superior maxillary and the os nasi. The ease afforded in the removal of the polypus by this step and the primary healing-in of the resected parts led to further trials, and in 1861 another, more extensive, and also successful case, was reported by v. Langenbeck in the "Deutsche Klinik" (1861, p. 281). This case consisted in the temporary removal of the superior portion of the upper jaw, without injuring the hard palate, the alveolar process, or the velum palati, followed by the excision of a large fibroid of the pterygo-palatine fossa. The steps of the operation were as follows: A curved incision, its convexity looking downward, commenced in the nostril, and extended outward and upward to the middle of the malar bone, the periosteum being divided at one stroke. The masseter was cut away from the edge of the zygomatic arch and the buccal fascia was opened. The lower jaw was now drawn aside, and, the tip of a key-hole saw being introduced into the pterygo-palatine fossa, the upper jaw was sawn through longitudinally above the alveolar process, the cut through the bone following the line of the cutaneous incision to the nostril. A second incision, commencing at the nasal process of the frontal bone, was carried outward along the lower margin of the orbit to join the first incision at the middle of the malar bone. Now the orbit was entered and the eyeball pushed up; then the frontal process of the malar and the zygomatic process of the temporal were divided; finally the orbital plate of the superior maxillary was severed transversely as far as its junction with the lachrymal bone. The resected jaw re-

mained attached by skin and periosteum only to the nasal bone and the nasal process of the frontal bone, and could be easily pried out of its bed by the aid of an elevator, the above-mentioned uninjured parts serving as a sort of hinge. The tumor was readily removed; the profuse hæmorrhage ceased spontaneously, only one ligature, that of the sphenopalatine artery, being required. The resected parts were now replaced, some difficulty being met with in overcoming their tendency to protrude. Wire sutures and a compressory bandage finally effected this end. The cutaneous incision healed almost entirely by adhesion; the bone was found to be immovable on the eighteenth day after the operation.

The value of this truly conservative idea was soon recognized. The operation became well established, and was quite often executed by various surgeons in Germany.

The first one to widen the field of this procedure was Nussbaum, of Munich, who, in 1863, had to deal with an obstinate case of infra-orbital neuralgia of traumatic origin (A. F. Bratsch, "Bayer. Intelligenzblatt," 1863, p. 46, Case No. 13) in a woman of thirty-eight years. Numerous neurotomes of both the supra- and infra-orbital nerves had been performed during the five years preceding her admission to Nussbaum's clinic. In the course of the subsequent two years the cicatrices were repeatedly excised without improvement. Finally, the common carotid was deligated; the ascending ramus of the lower maxilla was trephined in order to permit the excision of portions of the inferior alveolar, the mental, the mylo-hyoid, and the lingual nerves. This led to necrosis and removal of the ascending ramus, but produced a pause lasting five months, after which a relapse occurred, for which v. Langenbeck's osteoplastic operation was performed with temporary success, the observation not extending over more than a few months.

The adaptation of this operation to neurectomy did not attract any attention, at least found no imitators. Billroth, then of Zurich, having excised, in April, 1864, a piece of the infra-orbital, one inch and a quarter long, in what he designated "the ordinary manner," by which Malgaigne's method is meant, and the patient's sufferings not being alleviated, conceived the idea of excising the nerve in question, from the foramen rotundum forward, by the aid of v. Langenbeck's osteoplastic operation.

He believed himself to be the first one who had thought of this plan, but, upon studying up the history of neurectomy, he found that Carnochan, of New York, had preceded him in carrying into effect a similar plan, and also Nussbaum, in executing the identical procedure which Billroth had thought of. Griesinger, who felt a personal interest in the patient, was deterred by the operation, and merely advised the removal of some sensitive portions of the corresponding alveolar process, which was done, accordingly, in May, 1864. The operation was followed by a quiescence of the attacks extending over ten months. The affection reappeared then, and, in February, 1866, Billroth's original plan, osteoplastic excision of the superior maxilla, was successfully performed, and the nerve was cut away close to the foramen rotundum. The operation could be done in an exact manner without serious hæmorrhage. The wound healed kind-

* Read before the New York Surgical Society, December 11, 1883.

ly. The exsected nerve was found to be fully regenerated, and in every respect normal. Meckel's ganglion was not removed. In the ensuing months of April and May, branches of the third division of the fifth pair became the seat of neuralgia, and required sections of the buccinator and mentalis nerve. In July, 1867, the common carotid was ligated with temporary benefit, this lasting till January, 1868, when another relapse drove the patient into Niemeyer's clinic, at Tübingen, where the constant current again relieved him. Here the history stops.

From Billroth's case up to my three operations, no mention of the method as adapted to neurectomy is found in literature.

The late Professor Wagner, of Königsberg, in Prussia, devised the simplest method, and the one requiring the least cutting, by which the foramen rotundum can be exposed. He opened the orbit and laid bare its floor, then pried off the lamina of bone serving as a roof to the infra-orbital canal; then, by a suitable hook, he raised the nerve out of its bed from alongside the uninjured artery, and, following it up toward the round foramen, cut away successively all its branches, and finally the trunk. The integrity of the antrum was thus preserved, yet phlegmon and erysipelas set in in almost all of Wagner's cases. This circumstance puzzled him a good deal, and he attributed it to neuro-paralytic influences. That the operation is difficult and unusually delicate, on account of the confined space, is evident. In cases of a narrow and deep orbit, or where the artery was unfortunately injured, it became almost impracticable, as one of Wagner's own cases (No. 10), König's case, and a third case demonstrated, which I had an opportunity to witness here in 1878. It must be conceded, however, that Wagner's final results as regards the tardiness of the relapses were very good.

The second method to be considered is that devised by Carnochan, of New York. It has its merits, but it labors under the disadvantage of also affording insufficient space, in cases where the facial bones are small, for a sure removal of the entire nerve. Aside from the circumstance that a portion of the superior maxilla must be sacrificed in this method, it is undeniably excellent in suitable cases, and, where a large trephine can be employed, it gives plenty of space and light.

As the third mode of procedure I have to mention Bruns's plan of resecting the malar bone, dividing the muscles presiding over mastication, and thus approaching the nerve from the temple. It is in many ways unsatisfactory, mutilating like Carnochan's operation, the wound is narrow and deep, and manipulation of the nerve is very difficult. Yet a respectable number of patients have been operated on in this manner with fair success.

As an important modification of Bruns's method, Luecke's procedure has to be mentioned, in which the malar bone is not sacrificed, but only temporarily exsected and turned aside, thus giving the operator access to the temporal and pterygo-palatine fossæ. Especially in the presence of a deep layer of adipose tissue and of large masticators, the wound must be very inaccessible.

As the fourth and last procedure we have to mention

preliminary osteoplastic resection followed by removal of the entire nerve. None of the preceding methods can compare with this as regards the space and light it affords, and

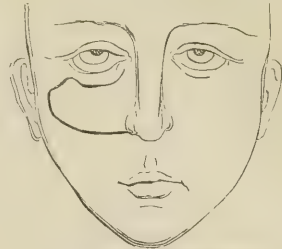


FIG. 1.—THE CUTANEOUS INCISION.

the ease with which the infra-orbital nerve can be removed in its entirety. It sacrifices no part of the superior maxilla, and, as statistics prove, is not more dangerous than any one of the preceding methods. With a few modifications, it deserves to be employed in cases not suited for Wagner's method, and merits further trial and development as applied

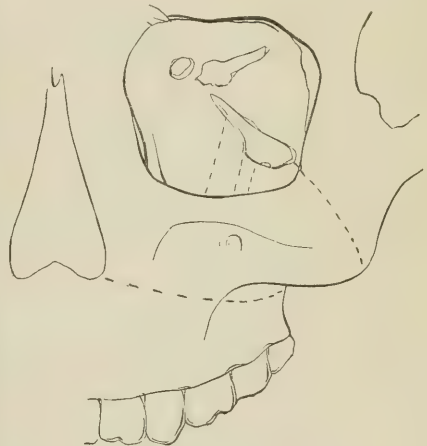


FIG. 2.—SECTIONS WITH THE KEY-HOLE SAW.

to the alleviation of the terrible sufferings of prosopalgia. Advisedly I do not use the word "cure," since love of truth compels me to admit that our ability to cure prosopalgia is just as uncertain as the knowledge of its pathology is unsettled and unsatisfactory.

The cases observed by me are the following :

CASE I.—Peter Deucker, aged thirty-six. His trade, that of an oven-builder, necessitates his frequently entering bakers' ovens for making repairs. On emerging from a very hot oven he is liable to be exposed to sudden changes of temperature. He said that he had been suffering off and on for eighteen years. In 1877 neurotomy in front of the right supra-orbital foramen was performed by a surgeon with temporary benefit. Large doses of quinine and salicylic acid also modified the attacks to the degree that they become shorter and less severe. In 1878 a re-

mission of three months was brought about by a number of subcutaneous injections of one ninety-sixth of a grain of aconitine, repeated every two hours. At the end of this period mild attacks commenced again, first at long intervals, afterward more frequently; the hypodermic use of morphine was resorted to until the patient had become a confirmed morphine-eater. The attacks had become more frequent and more severe, in spite of the anodyne, and his family attendant directed him to the Mt. Sinai Hospital, where he was admitted May 10, 1881. I found on a well-built frame a somewhat flabby skin and muscular system, the internal organs normal, the patient anxiously avoiding motions of the jaws. On the slightest provocation, such as articulation, chewing, swallowing liquids, or touching any portion of the cheek or lips, the patient's face became distorted and cyanotic, his left eye blood-shot with a copious flow of tears, and, while his hands were pressed nervously to the anterior surface of the upper jaw, his body was bent low down, and a number of deep moans escaped from his chest. The attacks lasted from thirty seconds to two minutes. There were two painful spots—one exactly over the left foramen infra-orbitale, another at the naso-labial junction. The teeth of the upper jaw were the seat of severe irradiating pain during the attack; the lower jaw and tongue were also somewhat affected in this way; the palate was free.

Immediately on admission, a treatment by the constant galvanic current was instituted, but did not produce any notable effect. Hence, after forty-eight hours' preparation, an excision was resolved upon, the anamnestic signs pointing to a neurosis of a peripheral origin, the presumable seat of the affection being in front of the superior alveolar branch of the nerve-trunk.

In selecting the method by which this end should be accomplished, the difficulties encountered in a case of Wagner's operation, witnessed by me, were very vividly remembered. Flooding of the field by blood, soiling of the speculum, hence want of light and space, and especially the impossibility of actually following up and exposing to view the central end of the nerve situated between the foramen rotundum and the infra-orbital canal, led me to abandon this method.

The objections to Bruns's and Luecke's procedures were also great. The powerful masticators of the patient promised to give a good deal of trouble, calling for a very deep wound, the possibility of injuring the internal maxillary artery in which, and the ensuing difficulty of dividing the nerve with any amount of certainty, caused me to abandon these methods also. Compared with Carnochan's operation, the temporary resection had the advantage of not mutilating, of giving decidedly more space, and hence more certainty of accomplishing the chief end of the operation, that is, certain removal of the longest possible piece of the nerve.

The circumstance that the method had not been much tried as an aid to neurotomy was rather an incentive than anything else to a new trial, and to a widening of our experience in the treatment of such an intractable disease as prosopalgia.

Accordingly, on May 12, 1881, the operation was performed strictly after v. Langenbeck, so far as the incisions were concerned, except one modification.

In studying the bearings of the operation on the object in view, I found that the section through the frontal and temporal processes of the malar bone could be advantageously replaced by a simple division of the middle of the malar bone. The injury would be lessened, and yet enough space would be afforded for attacking the nerve. In addition to this, the supra-orbital foramen being exposed, the nerve was divided about two eighths of an inch in front of it. In sawing through the superior maxillary the hæmorrhage was considerable, especially when the

nasal mucous membrane was severed, but never alarming, and it ceased spontaneously. No difficulty was encountered in turning the resected block out of its niche, and the nerve was seen to slip easily out of the infra-orbital canal, and was lying at full length on the bottom of the wound. The alveolar and dental branches had been necessarily torn off. The trunk of the internal maxillary could be seen pulsating in the posterior part of the wound, covered by the periosteum stripped off the tuberosity of the maxilla. To expose the foramen rotundum fully, some remaining portions of the orbital plate of the maxillary bone had to be removed by forceps; then the nerve was grasped and easily cut off close to the foramen. No ligation was required. The parts, having been thoroughly mopped with an eight-per-cent. solution of chloride of zinc, were easily replaced, and the cutaneous wound was closed with catgut sutures. A small drainage-tube was passed into the speno-palatine fossa, leading out beneath the zygoma. No dressings were applied. The anesthesia, by chloroform, was never full except while the first incisions were made, and the blood entering the fauces and larynx was readily expectorated. The length of the excised nerve was one inch and seven eighths; the time consumed, one hour.

On recovery from the anesthesia, the patient at once touched his cheek, and was delighted at the absence of pain. Anesthesia of the corresponding parts was present; the return of sensation was ascertained on the fifth day about the ala nasi, on the twelfth over the foramen. Bloody serum oozed out of the tube for about a week, then gradually the discharge became seropurulent and scanty, so that the tube was removed by the end of the second week. No fever and no local reaction followed, and the cutaneous wound healed by adhesion. The resected part had become immovable in the fourth week. The neuralgic attacks had ceased immediately after the operation, and the patient was discharged from the hospital to resume his occupation. In the winter of 1882-'83 slight attacks commenced to manifest themselves again about once a week, the point of the most intense pain being the upper lip near the ala nasi, and the irradiation to the teeth of both upper and lower jaws of the right side more marked than ever before.

I directed the patient to a distinguished neurologist for treatment in May, 1883, but, both medicinal and galvanic therapy proving quite futile, and the attacks gaining in violence, the patient implored me to relieve him by an operation. It seemed pretty certain that extensive regeneration of the nerve must have taken place, and that its dissection from the cicatrix in which it must necessarily be imbedded promised to be a difficult task. Weighing all the circumstances, Carnochan's procedure seemed to promise most success, enabling me to expose the entire length of the infra-orbital canal and Meckel's ganglion. Being readmitted, the patient was put under the influence of chloroform on June 16th, and, a crucial incision exposing the foramen infra-orbitale, a number of thread-like nerves were found to radiate from it. The antrum being opened by the aid of the trephine, the infra-orbital canal was exposed, and a slender, irregular-shaped cord of varying diameter could be dissected out of it. The posterior wall of the antrum was broken out with a fine chisel, and Meckel's ganglion, together with the internal end of the nerve, was removed with forceps and scissors. The excised cord proved to be composed of nerve-tissue. To make sure of the destruction of the nerve as far as possible, the blunt point of a thermo-cautery was inserted into the foramen rotundum, and the parts were thoroughly seared. The patient, on recovering from the anesthesia, complained of violent, constant pain in the jaw, although the skin was found to be quite anæsthetic. In spite of a free use of hypodermic morphine injections, he spent a wretched night, the

attacks being now more frequent and violent than ever, the intervals between them never exceeding five minutes.

This gloomy aspect of the case continued until the discharge from the wound, which was lightly filled with iodoform gauze, commenced to be unmistakably purulent, which took place on June 19th. The highest temperature, 100.5 F., was recorded at this date, and the night was spent tolerably well with two injections of morphine. The two nights following the 19th were spent comfortably with the aid of one injection of morphine. On the morning of the 21st several sharp attacks were noted. Two more attacks came on the evening of June 22d, requiring an injection. The day and night of the 23d were spent painlessly and very comfortably, no morphine being required. The discharge from the deep parts of the wound was purulent and copious, but the skin was never inflamed. From this time on the case did well, the attacks not returning. By July 16th there remained only a fistula, into which a probe could still be passed to a distance of two inches and an eighth. Very slight fornication, with tenderness, appears once in a while in the course of the second branch; and lately the patient has had some pain in the course of the third branch.

CASE II.—Catharine Diemer, widow, aged forty-two, admitted to the German Hospital, January 2, 1882. She stated that she had suffered from paroxysms of intense pain in the upper lip and the right alveolar process for two years preceding, no cause for the same being known to her. She had had all the teeth of the right upper jaw extracted one after the other, although they were sound. All this had had no influence on her sufferings. The pain irradiated into the ear. She never had had otorrhœa. She had been under treatment for three months in the German Dispensary for a circumscribed necrosis of the alveolar process of the second molar, undoubtedly due to the last tooth extraction. The sequestrum was removed when loose, and a fistula leading into the normal antrum was found. The alveolar process had become much atrophied, and was seen to be invested by normal mucous membrane. Dr. Gruening kindly consented to examine her ear on January 6th, and found a normal drum, no perforation, acuteness of hearing slightly diminished, pointing to a chronic otitis media, the Eustachian tube free. The necessary instrumental manipulations did not produce any attack. Probing of the antrum by the fistula, touching of the alveolar process, and chewing always caused acute pain, which, however, was apt to occur spontaneously, too, especially at night.

All other resources being exhausted, a neurectomy was decided upon, and was carried out in the German Hospital on January 19th, almost in the same manner as in the first case. Profound ether anæsthesia was maintained only while the cutaneous incisions were made. Owing to their slight proportions, the sections through the facial bones were easy and rapid. The hæmorrhage was at first somewhat copious, but ceased spontaneously. In the light of the experience gathered in my first case, the division of the orbital plate of the superior maxillary was so modified as to run in the antero-posterior line from a point of the infra-orbital margin midway between the lachrymal duct and the infra-orbital canal, backward and parallel with this canal, to the inferior orbital fissure. Thus injury to the nerve and the lachrymal duct was avoided, and the slight tuberosity marking the inner side of the posterior end of the infra-orbital canal, the chief obstacle to a free exposure of the sphenomaxillary fossa, was got out of the way. On turning out the resected mass, the nerve was seen to slip easily out of the canal, and could be readily followed to and cut away at the foramen rotundum, the portion removed measuring an inch and three fourths. The hæmorrhage was controlled throughout by slight compression. The wound was closed by catgut sutures, and capillary drainage of the sphenomaxillary fossa by a few

strands of catgut was employed. The cutaneous incision healed throughout by adhesion; the place where the catgut drain lay continued to discharge a slight amount of serum for two weeks, then closed. Anæsthesia was fully established immediately after the operation, but the time of the return of sensibility was not noted. The attacks had ceased, and did not return till March, 1883, when she again complained of pain in the upper lip, the attacks being of a mild character and of short duration, and easily controlled by small doses of morphine.

CASE III.—Jacob Kahn, drygoods clerk, aged sixty-three, a well-built and well-preserved man, who was unable to name a cause for his complaint. The first series of severe attacks of facial pain occurred in November, 1879, and lasted for four weeks. Its seat was at the point of exit of the left infra-orbital nerve on the face, the pain irradiating into the upper teeth, the lower eyelid, and the left ala nasi. It was subdued by local injections of morphine, and a pause of three months followed. Since the spring of 1880 the paroxysms had become somewhat more frequent, were most easily produced by mastication, but were controlled by morphine. In the spring of 1882 the attacks grew more severe, and the patient sought relief in an institute established for the treatment of nervous complaints, where he was subjected to a prolonged course of medicinal and galvanic therapy; but, no improvement following, he became discouraged, and, having been admitted to my ward at Mt. Sinai Hospital, begged for operative relief.

The attacks were most severe in the evenings, and were readily produced by touching the lower eyelid. There was a *punctum dolens* a little above the foramen infra-orbitale. The upper teeth and palate were free, irradiation of the pain being noticed only along the tract of the supra-orbital nerve. In the absence of any signs pointing to a central cause, excision of the nerve was decided upon, and carried into effect on August 30, 1882, under chloroform.

The steps of the operation did not differ from those in Case II, except that the massive frame of the patient's head made the bone sections rather laborious. The hæmorrhage was about the same as in the former cases up to the moment when the saw, having cut through the entire superior maxilla, entered the nasal cavity, when it suddenly became very profuse. Ice-water was thrown into the nares, but failed to check the hæmorrhage, wherefore it was decided to hasten the remaining steps of the operation. The malar bone and orbital plate of the superior jaw were quickly divided. The resected parts were turned out of their bed, and then the source of the profuse hæmorrhage became apparent in a laceration by the saw of a very tardid erectile body covering the turbinated bone. The thermal cautery soon converted this erectile tissue into a dry eschar, and the operation was finished in the usual manner. The time consumed was forty minutes. Meckel's ganglion and one inch and a half of the nerve were removed. Catgut sutures and drainage, with a light compressive dressing, completed the work. The operation was followed by prompt relief. The cutaneous wound healed by first intention, no fever appearing, but the nose continued to discharge pus for a considerable time, and finally the skin became reddened over the line of section through the malar bone. A small puncture in the cicatrix being made, about three weeks after the operation, the probe detected a rough surface; and subsequently, in January, 1883, a sequestrum, corresponding to the temporal side of the section, was extracted, the defect being marked by a deeply retracted cicatrix. Up to date the patient has remained free from the facial pain.

Dr. Seessel kindly examined the nerve removed in case I, at the first operation, and also that in Case II, and found

both normal in appearance. In Case III the specimen was lost.

The proposed modifications—that is, sawing through the middle of the malar bone instead of dividing the frontal and temporal processes of the same; then, instead of v. Langenbeck's transverse, an antero-posterior (sagittal) section through the orbital plate of the upperjaw on the inner side of and parallel to the infra-orbital canal—will shorten the operation, and will materially increase the facility of access to the most central portion of the nerve.

It is far from my intention to urge the propriety of this operation in every case of supra-orbital neuralgia, and the report of my three cases in this paper was rather inspired by the desire of testing the value of a rather untried procedure, and of increasing the number of available means for combating a treacherous enemy. As long as the true nature of prosopalgia remains unknown, the employment of any means and of every means must be fair and permissible, however empirical and unscientific it may appear to be.

Book Notices.

On the Relations of Micro-Organisms to Disease. The Cartwright Lectures, delivered before the Alumni Association of the College of Physicians and Surgeons, New York, February 19, 21, 24, and 27, 1883. By WILLIAM T. BELFIELD, M.D., Lecturer on Pathology and on Genito-urinary Diseases (Post-graduate course), Rush Medical College, Chicago. Reprinted from the "Medical Record," February and March, 1883. Chicago: W. T. Keener, 1883. Pp. 131.

DR. BELFIELD's admirable Cartwright lectures are so fresh in the memories of the profession in New York, and were so fully summarized in this journal at the time of their delivery, as to preclude the necessity or desirableness of extended notice at this time. This reprint is issued in convenient size and form, and includes two appendices, but neither index nor table of contents—an omission much to be regretted where the subject is so important and the treatment so thorough. Appendix A describes organisms not treated of at length in the body of the lectures, such as *Spirillum Obermeieri*, Frisch's bacillus of *rhinocleroma*, the *Bacillus malaris* of Klebs and Crudele, bacterial forms said to be connected with the life history of syphilis, small-pox, diphtheria, typhoid fever, scarlatina, etc., *Trichina spiralis*, *Filaria sanguinis*, etc. It is well illustrated by woodcuts, after the photo-micrographs used in the lectures, a few of which are also interspersed in the body of the work. Appendix B gives a brief account of the methods especially adapted to the detection and recognition of bacterial forms.

The publisher's imprint seems to be a "paster" upon that of Trow's Printing & Bookbinding Co., of New York.

Bacteria and the Germ Theory of Disease. Eight Lectures Delivered at the Chicago Medical College. By Dr. H. GRADLE, Professor of Physiology, Chicago Medical College, etc. Chicago: W. T. Keener, 1883. Pp. 219.

DR. GRADLE's lectures, delivered at the Chicago Medical College, and here collected and published in book form, cover substantially the same ground as the Cartwright lectures of Dr. Belfield. Bacteria are here treated of first with special refer-

ence to their life history and taxonomy, and afterward in connection with the several diseases which have been attributed to their agency. Dr. Gradle has the advantage of greater space—eight lectures instead of four—and therefore, with less necessity for close condensation, he finds it possible to furnish somewhat easier reading. After discussing bacteria upon their own merits, he gives a sufficiently full account of the researches upon which is based the connection of their organisms with each disease attributed to them, and is exact and liberal in his citations of authorities. The proof is absolute, he concludes, "that the invasion by these micro-organisms is the cause of anthrax, chicken-cholera, the various forms of septicæmia in animals, tuberculosis, glanders, some forms of suppurative inflammation, malignant œdema, erysipelas, gonorrhœa, and trachoma" (p. 209). With regard to human pyæmia, relapsing fever, leprosy, typhoid fever, and pneumonia, the evidence is less satisfactory, but still inclines toward a similar conclusion. The facts are fairly stated and not at all strained toward the author's bent of opinion, and much rather out-of-the-way literature has been brought together and condensed bearing upon the supposed connection of bacteria with diseases not generally attributed to their presence—e. g., whooping-cough and poisoning with *rhus toxicodendron*. To the general student, who finds himself suffering under a certain prevailing vagueness of ideas respecting the disease-germs which are, according to Dr. Sternberg, literally in everybody's mouth, these scholarly lectures will take the place of much toilsome reading, and save an immensity of critical condemnation. There are no illustrations.

BOOKS AND PAMPHLETS RECEIVED.

The Extra Pharmacopœia of Unofficial Drugs and Chemical and Pharmaceutical Preparations. By William Martindale, F. C. S., etc. With References to their Use, abstracted from the Medical Journals, and a Therapeutic Index of Diseases and Symptoms. By W. Wynn Westcott, M. B. Lond., etc. Second Edition. London: H. K. Lewis, 1884. Pp. iv+330.

Introductory Address delivered before the Medical Class of Dartmouth College, August 1, 1883, by Louis Elsberg, A. M., M. D., Professor of Laryngology.

Medical Thoughts of Shakespeare. Compiled by B. Rush Field, M. D. Easton, Pa., 1884. Pp. 16.

Bichloride of Methylene used in a Junker's Inhaler. By J. H. McIntyre, A. M., M. D. [Reprint from the "St. Louis Medical and Surgical Journal."]

Again on Axis-Traction Forceps, and on the Basilyst. By Alexander Russell Simpson, M. D., F. R. S. E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh, etc. [Reprint from the "Edinburgh Medical Journal."]

On the Uterine Sound. By Alexander Russell Simpson, F. R. S. E., etc. [Reprint from the "Edinburgh Medical Journal."]

The Prophylaxis of Ophthalmia Neonatorum. By Alexander Russell Simpson, M. D., F. R. S. E., etc. [Reprint from the "Edinburgh Medical Journal."]

Dystocia from Exomphalos of the Fœtus. By Alexander Russell Simpson, M. D., F. R. S. E., etc. [Reprint from the "Edinburgh Medical Journal."]

Transactions of the American Dermatological Association, 1883. Special Report of the Proceedings by the Secretary, Dr. Arthur Van Harlingen. Baltimore, 1883. Pp. 48.

A Study of the Tenth Census. The Increase of Insanity in the United States, and its Causes and Sources. By Foster Pratt, M. D., Kalamazoo, Michigan. Kalamazoo, 1883. Pp. 21.

Perityphlitis. By Robert F. Noyes, M. D. [Reprint from the "Transactions of the Rhode Island Medical Society."]

THE
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NEW YORK, SATURDAY, JAN. 12, 1884.

TRICHINIASIS AND AMERICAN PORK.

COMMENTING on the recent revocation of the French decree of February 18, 1881, prohibiting the importation of American pork, the "Lancet" remarks that this action has been the result of the Consulting Committee of Public Hygiene and the Government having come to the conclusion that, with proper precautions, trichinous pork is rendered innocuous in the processes of salting and cooking. It adds that the French authorities are impressed, however, with the necessity that these precautions should be widely known and observed, and it implies that the publicity given to the matter by its having been made the subject of legislation is likely to answer the purpose of inuring such knowledge and observation. "In England," it adds, "the question interests us all the more, as the importation of American pork has never been checked. Public attention has not been awakened to the existence of this danger by any such energetic legislation, and the duty of warning the public by the ordinary channels of publicity becomes therefore especially urgent." The "Lancet" is to be commended for taking this pains to inform its readers that pork, whether American or not, should be well cooked; it would be still more to be commended if it would state how many cases of trichiniasis in England have been traced to the use of American pork, the importation of which has never been checked.

Coupled with the inference we have hinted at as fairly to be drawn from the "Lancet's" remarks, a statement lately made by our consul at Basle, Mr. Mason, becomes of interest. In a recent report to the State Department, an extract from which was published in the "Evening Post" last week, Mr. Mason says: "The fact deserves to be widely known that here in Switzerland, which is almost the only Continental country in which American meats are permitted to be imported and sold on their merits, their reputation is not only higher now than ever before, but they command a preference in this market over similar classes of meats from every other country." Mr. Mason throws out the broad suggestion that, if it had not been the case that the importation of American meats into European countries, in a normal state of the market, brought the retail price of a favorite article of food within the reach of many thousands of people who could not otherwise afford such a luxury, thereby not only making a serious competition for the European butchers and hog-raisers, but also diverting a large and constantly increasing outflow of money to the United States, it would never have been discovered by the economists of Paris, Berlin, and Vienna that American pork was dangerous or impure.

It seems that it is only for a brief period that American

pork is to be admitted into France, and only at three ports even for those days of grace. Moreover, what is graciously allowed to be landed under those terms is to undergo the further ordeal of an examination by "experts." In short, France is determined that her own hogs shall not suffer from American competition, thus following in the wake of Germany, which has declined to co-operate with our own Government in investigating the condition of American hogs. So far as France is concerned, whatever hardship her people may suffer in the future, either from the enhanced price of their own pork or from retaliatory legislation on our part, they may attribute to M. Paul Bert in great measure, judging from the reports that reach us.

It is not the province of this journal to discuss matters of legislation, except in so far as they may touch upon medicine, but we may suggest that a perusal of Dr. Miller's article on "French Brandy," published in our issue of December 8th, is enough to satisfy any Congressman's constituents that we have quite as good reasons for prohibiting the importation of certain European products as have ever been truthfully brought against the unrestricted trade in American pork.

For some time there was a lack of evidence to counteract the assertions so freely made in Europe as to the prevalence of trichiniasis in the United States, and we then expressed regret that our Government took no steps to ascertain the exact facts in the matter. Persistent and reiterated denial was certainly no valid argument to oppose to the action of foreign officials, especially as their injurious statements were supported by allegations to the same purpose made in this country. The onus seemed to rest upon us of demonstrating the harmlessness of our hog products. All that is changed now, however; the Government has gone far enough in its investigation of the matter to show that the outcry against American pork in Europe is, to say the least, founded on imaginary if not fabricated data. If the German rejection of our overtures were not enough to convince any unprejudiced inquirer of this fact, especially when taken in conjunction with the jockeying that has been found necessary to bolster up the schemes of the prohibitionists in France, its confirmation might readily be found in the condition of things in a country into which the importation of American pork has "never been checked."

THE BALTIMORE SEWERAGE CONTROVERSY.

In our issue of December 22d we deprecated the introduction of a pronounced controversial, not to say captious, element into a public discussion on various systems of sewerage in Baltimore, and we gave it as our impression that the acrimony betrayed by one of the gentlemen engaged in the discussion was founded on errors of information or of interpretation. We had reference to Dr. Chancellor's conviction that the criticism to which he had been subjected in the "Sanitary Engineer" was put forward in the interest of Colonel Waring's patented system of sewerage, and that Dr. Billings had gone out of his way to advocate either Colonel Waring's or any other special system of sewerage before the people of Baltimore.

As regards the "Sanitary Engineer," the well-known care-

fulness of that excellent journal not to suffer its columns to be used to further private ends, or even to advocate special systems not involving personal interests, should be considered *a priori* evidence that "Colonel Waring and his system" could never legitimately be read between its lines; but now we have Colonel Waring's own declaration, in a communication to the "Maryland Medical Journal," that he knew nothing about the article until he saw it in print, and a statement of his belief that, had it been written by him or in his interest, the editor of the "Sanitary Engineer" would probably have rejected it on that very account.

As for Dr. Billings, he too addresses a communication on the subject to the "Maryland Medical Journal," and in the same number we find an abstract of the lecture given by him in Baltimore. In the latter, the criticism of the Liernur system, although pointed and severe, seems to us in no wise to exceed the bounds of propriety; and in his letter, Dr. Billings's version of what he said to a prominent citizen of Baltimore after the lecture appears equally free from anything advocating a special system of sewerage for the city. In our opinion, moreover, it would have been not at all to his discredit if he had chosen to advocate either the Waring or any other tried and approved system, whether patented or not. The burden of his lecture, judging from the abstract published, was to point out certain advantages of the plan of separate conduits for the surface drainage and the sewage proper of a town under specified circumstances; and, since the Liernur system involves that plan, to that extent he surely can not be said to have spoken against it. He did allude to some of its alleged imperfections, however—chiefly its costliness.

We are glad to observe this confirmation of our suspicion that the actual facts in the case were not such as necessarily to have given rise to pique. So long as men are not charged with gross ignorance or disingenuousness, and so long as there is no occasion for such charges, it seems to us that the discussion of plans and systems of sewerage may well be allowed the widest range.

MINOR PARAGRAPHS.

THE NEW YORK STATE LUNATIC ASYLUMS.

In the annual report of the Comptroller, for the year 1883, the need of more ample accommodations for the insane of the State is pointedly referred to. It seems that the number of patients treated in the six institutions during the year was 3,684. Large sums of money have been expended to furnish the necessary increase of capacity, but in many instances not judiciously. Two examples are cited of buildings half completed at about double the estimated cost of the whole work. In view of this waste of the public funds, and to check its continuance, the Comptroller recommends that in future there should be inserted in every act authorizing the erection of asylums a clause requiring the plans to be approved by the State Board of Charities, and by his own department, before the work can be begun or the money be available for building.

THE MEDICO-LEGAL SOCIETY.

This society, which might make itself exceedingly useful, has been watched with a good deal of interest and not little

solicitude for the past two or three years by many members of the profession who, being either members generally absent from its meetings, or non-members, but yet interested in medical jurisprudence, have cherished the hope that the time would at length come when the society would cease to be vexed by the contending factions that have arisen within it. We are sorry to say that that hope seems as far as ever from realization. Last Wednesday evening, the occasion of the installation of the officers elected to serve during the year, the meeting was held, and it was followed by a "banquet," but the whole affair was preceded by a meeting called by some of the members for the purpose of organizing an opposition to the present administration of the affairs of the society. It may be that this new movement will work a radical change in their conduct. Certainly nothing short of such a change seems to us to hold out the least hope of improvement.

"THE KANSAS CITY MEDICAL RECORD."

We have received the first number of this new monthly journal, dated January, 1884. It contains forty-two large, double-column pages of reading matter, embracing original communications, clinical reports, society proceedings, selections, and editorials. Twenty-eight of the forty-two pages are taken up with selections, among which we recognize an abstract from the New York "Medical Record" (not credited) and three articles from this journal, only one of which is credited. The "Record" presents a handsome appearance, and we presume that it is only on account of the haste incident to getting out a first number that "Life's" injunction, "Render unto scissiors the things that are scissiors'," has passed in a measure unheeded. The "Record" is owned and edited by Dr. A. L. Fulton and Dr. G. Halley.

THE NOSTRUM TRADE IN PHILADELPHIA.

We learn from the "Philadelphia Medical Times" that the Board of Trade of Philadelphia Druggists has passed a resolution to the effect that its members will positively refuse to keep or deal in those proprietary medicines which are sold indiscriminately to individuals engaged in other kinds of business than dealing in drugs. This action our contemporary regards as deserving of formal notice by the medical societies. To those who can not read between the lines it would seem like a mere announcement that the druggists of Philadelphia are determined to keep the nostrum trade in their own hands, and not allow any part of it to go to the grocers.

"THE ÆSCULAPIAN."

UNDER this title Dr. Edward J. Bermingham, the editor of the "Medical Gazette," has brought out the first number of a new monthly journal. The number, dated January, 1884, contains forty-eight double-columned pages of reading matter, handsomely printed, and in every way presenting a good appearance. The original articles are two in number—one by Dr. Fessenden N. Otis, and the other by Dr. Allan McLane Hamilton. The remaining departments of the journal are entitled reviews, selections from journals, abstracts of society proceedings, and miscellany.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 8, 1884:

also a bureau for all needed information for the sick; and they have in contemplation measures by which, if any one desires to obtain boarding in the country, or at the seaside, for cases of whooping-cough, or for recent cases of measles, scarlet fever, or diphtheria, and for information concerning all appliances for the sick, such as invalid-chairs, wheel and other crutches, bed-rests, fracture, water, or air beds, etc., he may obtain the object he seeks at the Directory.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 29, 1883, to January 5, 1884:*

APPEL, DANIEL M., Captain and Assistant Surgeon, having relinquished the unexpired portion of leave of absence granted by S. O. 68, Headquarters Division of the Atlantic, November 16, 1883, and reported for assignment, assigned to duty at Fort Porter, New York. Par. 2, S. O. 247, Department of the East, December 39, 1883.

HAVARD, VALERY, Captain and Assistant Surgeon. Assigned to duty in charge of office of Medical Director, Department of Texas, during the temporary absence of that officer. Par. 2, S. O. 164, Department of Texas, December 31, 1883.

NAVY INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending January 5, 1884:*

Hudson, A., Medical Inspector, from duty as Assistant to the Bureau of Medicine and Surgery on the 18th inst. to the United States steamer Lancaster, as the relief of Medical Inspector N. L. Bates, who is to be detached and ordered home.

RUSSELL, A. C. H., Passed Assistant Surgeon, from the Navy-Yard, Washington, to hold himself in readiness for sea-service.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, January 14th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (annual—private); New York Medico-Historical Society (private).

Tuesday, January 15th: New York Academy of Medicine (Section in Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), and Otsego, N. Y.; Ogdensburg (N. Y.) Medical Association.

Wednesday, January 16th: New Jersey Academy of Medicine (Newark).

Thursday, January 17th: New York Academy of Medicine (A Demonstration of Antiseptic Dressings, by Dr. Robert F. Weir).

Saturday, January 19th: Roman Medical Society.

OBITUARY NOTES.

DR. THOMAS W. PERRY, of Providence, R. I., died suddenly, on January 5th, of angina pectoris, at the office of Dr. Bowditch, in Boston. This well-known physician was born in Hopkinton, R. I., in 1823, and graduated as a physician at the University of New York in 1846. He began practice in Connecticut, afterward was surgeon of a Rhode Island regiment during the war, and finally located in Providence as a partner of the veteran Dr. Capron, who died recently. Dr. Perry had a large practice, and was much respected and beloved both as a physician and as a man.

J. WILHELM FRANKL, M. D., died on Wednesday, the 9th inst., in the forty-second year of his age. He was graduated from the University of Prague in 1867, and was a member of the Medical Society of the County of New York, the Medico-Chirurgical Society, and the Physicians' Mutual Aid Association.

Letters to the Editor.

THE NEW YORK COLLEGE OF MIDWIFERY, ITS PAMPHLET ENTITLED "WOMAN'S WORK" AND ITS "CONFIDENTIAL" CIRCULAR TO THE PROFESSION AND THE LAITY.

NEW YORK, January 3, 1884.

To the Editor of the New York Medical Journal:

SIR: When the College of Midwifery was organized we accepted the offices of censors, believing the institution and its object worthy of our recognition and assistance. Our connection with the institution had been but brief when we already found it necessary to criticise severely some things in its organization and management.

Our positions as censors gave us no voice in the conduct of the institution, our duties being simply to be present at and assist in the examinations.

The title and character of the pamphlet mentioned above met with our disapproval when first seen after it was in print, and the circulars and "confidential" card which have been distributed to the profession and laity, issued wholly without our knowledge, and only accidentally seen by us *to-day*, meet with our most emphatic disapprobation—to such a degree as to determine us to dissolve our connection with the institution, which we have done by forwarding our unconditional resignations to-day.

B. F. DAWSON, M. D.,
PAUL F. MUNDÉ, M. D.

NEW YORK, January 8, 1884.

To the Editor of the New York Medical Journal:

SIR: Will you please insert the subjoined resignations in the next issue of your journal?

[Copy.]

"HENRY D. CAREY, Esq.,

"President of the College of Midwifery.

"DEAR SIR: The Board of Trustees having persisted in issuing a circular letter and card to physicians, inclosed in the book entitled 'Woman's Work in the Field of Medicine,' which we consider extremely objectionable, and against which we protested at the last meeting of the Board, we hereby respectfully tender our resignations as members of the Faculty of the College.

"JAMES O'REILLY, M. D.,
"JOHN ALSDORF, M. D."

Yours, etc.,

JOHN ALSDORF.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

A STATED meeting was held December 11, 1883, ROBERT F. WEIR, M. D., President, in the chair.

TRANSVERSE WOUND OF AN EXTENSOR TENDON OF THE FINGER; SUTURE.—Dr. A. C. POST presented a patient with the following history: "November 3, 1883, George Moore, aged nine years, was brought to my clinic, with the index-finger of his right hand flexed at a right angle at the articulation, between the first and second phalanges. The patient had no power of extension, although there was no rigidity of the articulation. There had been a transverse incision over the back of the joint five weeks before. The external wound had healed. I made a free longitudinal incision over the dorsal surface of the finger, and found the tendon divided transversely throughout nearly its whole breadth, there being a very narrow strip undivided on each side. The proximal

end was full and loose, the distal end was somewhat atrophied, and adherent to the periosteum. I excised the margin of the opening, and then brought the divided ends together with fine sutures, after which I fixed the finger in a position of exaggerated extension to a dorsal splint, passing over the hand and forearm.

"November 10th, I dressed the wound, removed the sutures, and found the external wound almost perfectly united.

"December 8th, on removing the dressings, I found the finger straight, and the patient had the power of flexion and extension. I did not, however, allow him to make extensive movements."

NEURALGIA OF THE SECOND BRANCH OF THE TRIGEMINUS.—Dr. F. LANGE presented a patient, about forty years of age, a tailor, who suffered from neuralgia of the second branch of the trigemini, on the right side, which had resisted for a long time the usual external and internal remedies and applications, until finally the patient submitted to an operation, which was performed in March, 1882, after the method of Luecke, modified by Braun and Lossen, consisting in an osteoplastic resection of the zygomatic arch and bone, finding the nerve in the depth of the speno-maxillary fossa, at its exit from the skull, and, besides, a separation of the nerve at its exit from the infra-orbital foramen, and extracting the anterior piece from the base of the skull to this point. He was also able to destroy the speno-palatine ganglion, and so far the result had been permanent. Anæsthesia followed the operation immediately, and was complete also on the corresponding side of the palate. The patient at present had a certain kind of formication, which he described as like the crawling of worms, but had no real pain. The operation was performed by making a horizontal incision along the upper edge of the zygomatic arch extending to the external angle of the orbit, and then a perpendicular one downward over the base of the zygoma, and with a fine saw separating the zygoma from its attachment to the superior maxilla, directing the saw so that the blade was more parallel to the sagittal plane, in order to prevent subsequent disfigurement from depression of the separated bone. Then by bone scissors the arch was cut across half an inch in front of the meatus auditorius externus. This triangular flap of skin and bone was pulled downward, and then the speno-maxillary fossa laid open, the temporal muscle drawn backward, and the nerve found, after some adipose tissue had been pulled aside or removed. In the patient presented, the operation had not offered any peculiar difficulty, but Dr. Lange presumed that it was probably on account of his lack of fat, and could readily conceive that sometimes in stout, fleshy persons the operation might be very tedious. He was able to see the internal maxillary artery, but there had been no disagreeable interruption on account of hæmorrhage. The wound healed entirely by first intention, and as an accident the rubber drainage-tube was healed in. After a time the tube was cut out. The result, so far as disfigurement went, was rather gratifying, and also with respect to the recurrence of the disease. Dr. Lange did not think that any other operation afforded the possibility of excising the nerve to so great an extent and with so little danger and disfigurement as the one described. For some time the patient had slight difficulty in opening his mouth in consequence of inflammatory contraction of the temporal muscle; but at present he had no difficulty which prevented him from taking his food, though the movements of the jaw were not normal yet. The little wound by which the nerve was exposed at its exit from the infra-orbital canal had hardly left a visible scar.

Dr. C. K. BRIDDON asked what objection there was to performing the anterior operation first, and reserving the more extensive operation in the speno-maxillary fossa for a return of the disease.

Dr. LANGE said that he did not regard the operation as a severe one.

Dr. BRIDDON remarked that he saw the more extensive operation performed several years ago, and it was exceedingly tedious, and very unsatisfactory, as he thought. He was unable to state what the result was.

OSTEOPLASTIC RESECTION OF THE UPPER JAW FOR PROSOPALGIA, WITH THREE CASES.—Dr. A. G. GERSTER then read a paper with this title. [See p. 38.]

Dr. LANGE would merely say that, starting with the principle of causing as little lesion as possible, he thought the certainty with which prompt union of the wound could be expected was greater in Luecke's operation than in the one which Dr. Gerster had described, because any septic influence which might follow opening of the nasal cavity and its appendages was excluded. He also thought the thoroughness with which the surgeon was able to remove the branches of the nerve after its exit from the skull was greater in Luecke's operation than in the one described by the author of the paper. It seemed to him that it must be quite difficult to reach the speno-palatine ganglion with certainty from before, although he had not had any practical experience in the method. Finally, comparing the result of the operation in the patients presented from a cosmetic point of view, one must evidently decide in favor of Luecke's operation.

Dr. T. M. MARKOE said his experience had been limited to a single case, in which he performed the operation through the antrum. He found no difficulty in detaching the nerve from the canal in which it lay in the superior maxillary bone, and, holding the nerve with a pair of forceps, he was able to trace it back with the end of the scissors, and succeeded in cutting it off not so far back as the foramen rotundum, not so far back as the point where the two short branches go to Meckel's ganglion, but close to that point, and he felt that he cut off the nerve posterior to the two posterior dental branches, those in which relapse would seem most likely to take place. The operation was difficult and very tedious by reason of inability to get light at the bottom of the cavity. Nevertheless, he felt quite sure that he cut the nerve at the point mentioned. The result was extremely satisfactory, but the entire case impressed him unfavorably concerning neurotomy in these cases. The case began as one of neuralgia of the inferior maxillary nerve, for the relief of which he trephined the inferior dental canal some two years before, and removed about one inch of the nerve, and the cure was satisfactory. After a few paroxysms, the pain entirely subsided, but finally it returned in the second branch, the infra-orbital, and it was for the relief of this relapse that he performed the operation on the superior maxillary nerve above described. The patient was entirely relieved by this second operation, and Dr. Markoe saw nothing of him for nearly three years, when he returned, saying that he had not had pain in the region of the distribution of the infra-orbital nerve, but was then suffering intensely from supra-orbital neuralgia, and refused to take any further chances of recovery by operation. In other respects the patient was entirely healthy, and there was no reason to suspect that the affection had a central origin.

Dr. GERSTER then presented the patient upon whom he operated in May, 1881, and said he was aware that this method would rarely have to be employed, but, as it might be useful in another instance, and was adapted to the removal of the second branch of the trigemini, he thought it was worthy of the effort which it required. That was the only object which he had in bringing the operation forward. He was sure that Luecke's method was preferable in many cases, while in other cases Carnochan's method would be the better one to resort to, but there must be cases where the method which he had described would

be the best, either as the first operation to be performed, or as a last resort.

As to the question of the healing of the external wound, since the introduction of antiseptics this was of much less importance than formerly. The avoidance of an opening into the antrum was not of much advantage, as already shown by Wagner's experience, which, to be sure, was gained before the days of antiseptic precautions. What seemed to him most curious was the circumstance that, after having removed the entire nerve from the infra-orbital canal, sensation returned so quickly in those parts which were innervated by the second branch. Perhaps this might be explained by some filaments of sensitive nerve passing back by way of the Vidian nerve to the facial, and thus being distributed to the skin of the face.

Dr. W. S. HALSTED remarked that in the reproduction of almost the entire superior maxillary the infra-orbital canal might play the part of the "tubular suture" of Gurlt and Vinlair, the divided ends occupying a so-called "*Virolage*."

Dr. J. W. HOWE was unable to understand the advantages which the operation described by Dr. Gerster had over that performed by Dr. Carnochan.

Dr. GERSTER said the chief advantage which the operation had over all other operations was that it gave a great deal of space and light, and, taking all the cases together as they came, it afforded better opportunity for manipulation in the bottom of the speno-maxillary fossa.

Dr. HOWE thought there could be no great difficulty in dissecting out the branches of the nerve in Carnochan's operation, and cited one case which he had last winter. The only difficulty which he experienced was in determining whether or not he had to deal with Meckel's ganglion; and he would ask whether there was any special appearance or condition by which Meckel's ganglion could be distinguished from a little mass of cellular tissue and blood-vessels. The case in which he operated was one of seventeen years' standing, accompanied by spasmodic contraction of the muscles of the face. The pain was relieved very much for two weeks after the operation, and it then returned, but without spasm. A drainage-tube had been passed through the canal, and this was injected with a strong solution of chloral, which diminished the pain, and since that time the patient had been comparatively free from suffering—at least had no very violent pain whatever.

Dr. LANGE said that in the patient presented it was rather easy to trace the branches arising from the trunk of the nerve down to the speno-palatine ganglion, probably because the patient was a very favorable one so far as a scanty amount of fat was concerned. It seemed to him, also, that the nerve, so far as it had been exposed in the cadaver presented by Dr. Gerster, was not reached so immediately at the foramen rotundum as it was possible to do in Luecke's operation. And it also appeared to him that a few of the thin branches of the nerve were passing down which might be easily overlooked, and the nerve cut just in front of these fibers, and in that way the operation be performed less thoroughly.

The PRESIDENT said that three years ago he had an opportunity to present to the society a case of persistent infra-orbital neuralgia which had been cured by Carnochan's operation. The patient was seen two years afterward, and there had been no return of the pain. In this case Wagner's operation had been previously performed by Dr. Seguin, who had had the patient under treatment for a long time. The first operation was accomplished without difficulty, and the nerve was divided probably not much farther back than the posterior margin of the orbital plate. The patient was relieved for a time, but, as there was a recurrence of the symptoms, an opening was made by him into the antrum with a chisel, the inferior wall of the canal

opened up by means of slender scissors, and the posterior wall of the antrum broken through by the blunt end of the same instrument. The remains of what was supposed to be the nerve, but which proved to be cicatricial tissue to which the posterior portion of the nerve was attached, were seized with the forceps and held taut, and, by means of a little forked, blunt hook, carried onward to the foramen rotundum, the nerve was traced out and there divided with scissors. The operation was aided very materially by the use of reflected light from the head mirror. Healing was rapid; no constitutional reaction took place, and the deformity following the operation was very trifling indeed. In fact, he thought that the more severe osteoplastic operation should be reserved for the more obstinate cases. Carnochan's operation had advantages over that described by Dr. Gerster, and over Luecke's, in ease of performance, freedom from hemorrhage, and lessened deformity. He could conceive of the possibility of necrosis occurring after both the osteoplastic operations, and also the possibility of mastication being interfered with in Luecke's operation. Under such circumstances Carnochan's operation should be the first one to be resorted to.

The question raised by Dr. Howe was a pertinent one. The ganglion could not always be recognized. He (the President) had been unable to recognize it in his case, and other surgeons had been unable to recognize it, although the extraction was accomplished, as shown by paralysis of the palate immediately after the operation.

The President also thought it a point worthy of note that one of Dr. Gerster's cases proved the possibility of a good deal of hemorrhage, which interfered with seeing the different anatomical structures.

Dr. LANGE remarked that one advantage which Luecke's operation possessed was, that the hemorrhage was quite insignificant, and also that the disfigurement was very much less than that left after any of the other operations. He would emphasize the statement that Luecke's operation involved much less surgical interference than Carnochan's, or that by temporary excision of the jaw. There was, in fact, only the lesion of the zygoma, which was comparatively unimportant. So far as he knew, the process of healing had been favorable.

The PRESIDENT asked whether, if suppurative and inflammation should occur, there would not be more or less impairment of the muscles of the jaw.

(To be concluded.)

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of December 5, 1883.

CRITICISMS ON THE SPECIFIC THEORY OF HYDROPHOBIA.—Dr. CHARLES W. DULLES read a paper with this title. [See the journal for December 29, 1883, p. 707.]

Dr. HENRY HARTSHORNE observed that the author of the paper has given an interesting philosophical analysis of the confusion and uncertainty attaching to much of the evidence concerning hydrophobia. But when the question occurred as to accepting the conclusion to which he had come—that no such specific disease, resulting in man from the bite of the rabid dog, had been proved to exist—he must necessarily dissent from this, for the best possible reason; namely, direct personal observation. It had happened to him, early in his practice, to meet with a case, the history of which was known to him from the beginning. The essential facts were these: A boy, eight years of age, was bitten, almost in front of the speaker's house, by a dog which, upon usual evidence, was considered to be mad. A day or two afterward his father brought him to Dr. Hartshorne,

and, late as it was, excision of the bitten part was advised; this was, however, not consented to. About a month afterward he was called to see him. Not proposing to detain the College with all the particulars of the case, which had been fully reported in the "American Journal of the Medical Sciences," it might be said that it was studied without any prepossession or expectation as to what its course would be. He had not, before that time, become very familiar with the clinical history of the disease. The most striking symptom which might be considered, in the speaker's present judgment, to be pathognomonic of hydrophobia in man, was an *excessive reflex excitability of the muscles of respiration*. This persisted throughout the case. Not only an effort to drink a fluid, but the sound of running water, any sudden sound, a flash of light, even the puff of air made by moving the hand lightly above the patient's face—every such slight cause would induce a *gasping* of respiration, which gave rise to incessant distress, and made swallowing food or drink impossible. The boy was violently delirious; and this, as well as his age and the peculiar character of his affection, put quite out of sight any suggestion that a *mental* cause, from horrible anticipation of hydrophobia (such as, no doubt, in several other cases had existed), could influence the case. He died in about a week from the beginning of the attack.

He also afterward saw another case; that of a man, under the care of the late Dr. George W. Norris, in one of the surgical wards of the Pennsylvania Hospital. This patient was not delirious. In him also the reflex inspiratory spasm was clearly marked, although, for a time, he could swallow moistened pellets of bread, or other solids, but no liquids. Along with this, it must be noticed, there was *in neither case* any *tetanic muscular rigidity*. The absence of this at once differentiated such cases from tetanus, with which some authors, who had not *seen* instances of hydrophobia, had been inclined to conjecture their identity.

By such observations, confirmed by the records of many others in the literature of hydrophobia (which was not *all* confusion), Dr. Hartshorne had been obliged to conclude that there was a disease *en* *generis*, to which that name, though not well chosen, might apply. Attacks did occur in men, after they had been bitten by dogs, which were unlike every other disease; therefore we inferred the existence of a *specific* malady. It was, so far (with two or three *doubtful* exceptions only), invariably fatal. It might take place anywhere, even (as Dr. Dulles incidentally said) in Constantinople and Africa, notwithstanding the denial of this by some writers.

Against the horror and certain fatality of such a disease, granting its existence, the precautions now commonly taken were not at all excessive. It would be very unsafe for them to be relaxed, unless a clear case was made out of the actual non-existence of hydrophobia. It would be much to be regretted, therefore, that a conclusion such as that of the paper just read should go before the public, in the proceedings of the College, without protest, if, at all events, objection to it rested in other minds as well as in that of the speaker.

Dr. Hartshorne, after some further discussion, inquired of Dr. Dulles whether he rejected the opinion that *rabies canina* was inoculable from dog to dog.

Dr. R. P. HARRIS said: I have met with several cases of hydrophobia, and have been present when the disease was investigated by autopsy. I well remember the case of the boy just reported by Dr. Hartshorne. The youth and sex of the patient, the peculiar symptoms of his malady, and the history of his exposure to canine rabies, gave positive proof of the existence of hydrophobia. My father, not having met with a typical case, in an extensive country practice of twenty years, was inclined to doubt the existence of true rabies until I took him to see this

case. Dr. Hartshorne was present, and we examined the patient critically, and with much interest. This was the first case my father had had an opportunity to see, although he had then been in active practice more than thirty years, and it had the effect of convincing him that he had been in error in regard to it. The existence of this disease in young subjects, of which there are many cases on record, clearly proves to my mind that it is a veritable blood-poisoning, and entirely distinct from hysteria and the other neuroses. I have known a hysterical woman, under the fear of rabies, from having been bitten by a dog, manifest symptoms somewhat allied to those of hydrophobia; but a critical examination revealed the true nature of the disease. Such a case existed some years ago in Camden, and was very much talked about in Philadelphia; but the recovery of the lady satisfied the community of the true nature of the attack.

Dr. S. W. GROSS asked Dr. Dulles if he desired to be understood as stating that hydrophobia was not a specific disease, but a pure psychosis.

Dr. S. D. GROSS inquired whether Dr. Dulles was willing to be bitten by a dog suffering from hydrophobia as a test of his belief in the non-existence of the specific disease in man.

Dr. DULLES declined at present to give an answer to the inquiry of Dr. Henry Hartshorne, because to do so would involve a discussion almost as long as that of the paper he had read. He preferred at this time to confine himself to the subject of hydrophobia as reported to occur in man.

In reply to the question of Dr. S. W. GROSS, Dr. DULLES said that if the specific element in hydrophobia were eliminated—as he believed it ought to be—there remained nothing except to consider the cases as pure psychoses, or as errors of diagnosis. It was, he said, remarkable how little physicians seemed to be aware of the number of conditions in which, as was well known to students of the subject, the symptoms of hydrophobia were simulated. In reply to Dr. S. D. GROSS, he said that the question the latter had asked proposed not so much a test of the truth of his convictions as of his personal courage, and this was not the subject under discussion. But he could say that there had been a disbeliever in the specific theory of hydrophobia who had been willing to show his faith by his works. In the beginning of this century Dr. White, a young surgeon of Brighton, England, had allowed himself to be bitten by a mad dog, and had inoculated himself with this dog's saliva, without suffering any evil effects in consequence.

ABDOMINAL TUMOR SOMEWHAT RESEMBLING PREGNANCY.—Dr. JOHN H. PACKARD read the following paper:

I venture to hope that the following report of a case, presenting some unusual features, may be of sufficient interest to warrant me in bringing it before the College:

Mrs. G., aged twenty-one, a very slim and delicate-looking woman consulted me, on the 21st of July, in regard to a slight and uniform abdominal enlargement, which had been first noticed by her shortly after her marriage about three months previously, and had been gradually and steadily increasing. She menstruated regularly every month, and had had no nausea. Neither the breasts nor the nipples showed any change from the virgin state.

There was no tenderness at any point in the abdomen, and the appearance and feel of the swelling were very much such as would be presented in the early stages of pregnancy.

On the 26th I saw her again, and made an examination *per vaginam*. The os uteri was soft, and the cervix was of some length; but there was a bulging above, as if the uterus contained a mass partly solid and partly liquid. I did not, of course, think it right at this time to introduce a sound, as, in spite of the absence of rational signs, the presumption seemed to me to be in favor of pregnancy. One fact seemed to militate against this view, viz., that she rather lost than gained flesh.

I declined to express any opinion as to the character of the swell-

ing, but told the husband that my hope was that the case would prove to be one of pregnancy, as it was likely otherwise to be very grave.

There was a good deal of pain on either side of the hypogastrium, apparently due to tension of the muscles; this was temporarily relieved by the use of chloroform liniment. She had very little appetite, and I gave her a tonic composed of nux vomica and gentian.

The swelling continued to progress steadily, and on September 13th she presented the appearance of being at about the middle of the fifth month of gestation. The hypogastric pain troubled her greatly, and was only allayed for a very short time after each application of the liniment.

At the desire of the family, I now asked and obtained the advice of Dr. Ellwood Wilson, who saw her with me on September 15th.

In the forty-eight hours which had elapsed between my previous visit and this one, a very marked change had taken place. The abdomen had become greatly enlarged, its walls forming one curve from the ensiform cartilage to the pubes; there was very decided fluctuation, and percussion showed an area of dullness which was attributed by Dr. Wilson to the existence of a cystic tumor connected either with the Fallopian tube or with the broad ligament. A sound was introduced into the uterus, the cavity of which was found to be unoccupied. Dr. Wilson advised the drawing off of the liquid, which was accordingly done, by aspiration, on the 17th. More than a gallon of ropy, yellow liquid, somewhat deeply tinged with blood, was thus removed; the flow then ceased, and the end of the cannula encountered a solid substance, apparently a septum of considerable thickness. Upon the withdrawal of the instrument, a fresh flow took place, the liquid spouting out from the orifice to a distance of several inches. When this subsided, the abdomen, which was much less tense, was covered with raw cotton, and a bandage carefully and firmly applied.

During the operation the patient became quite faint, but rallied after the administration of a little brandy and water. In the evening her temperature rose to 103.5° F., but before morning it fell to about 100°. She slept very little, and complained of much pain, due partly to the stiffening of the cotton and bandage by the agglutination of some of the liquid which oozed from the belly. On examining the wound in the morning, it was found closed.

The following evening the temperature again rose to 103.5°, but subsided again before morning, and was not thereafter above 99°. Yet her condition was unsatisfactory; her face was much pinched, and anxious; she had very little appetite or ability to take food; at times her mind wandered slightly, and she slept but little. Vomiting occurred frequently, and she was seldom free from nausea. Her bowels acted regularly; her urine was free, and normal in every respect. Her pulse varied, but was generally from 110 to 120.

Beef-tea, milk, with brandy and lime-water, and champagne, were given at as short intervals as the stomach could bear them, and at stated times. External warmth was carefully kept up. It was determined that, should symptoms of peritonitis present themselves, ovariectomy should be at once resorted to.

A portion of the liquid was submitted to Dr. H. F. Formad for examination, and his report, which was not received until some time after the case had terminated, was: "I think it very doubtful that it comes from an ovarian cyst, the fluid showing very little epithelium, and very few of the ovarian cells of Drysdale."

September 23d, her condition was very much more favorable; her mind was composed and even cheerful, her pulse and temperature good. Some food had been taken and retained.

On the 24th her state was much the same, and it was thought proper to entertain the idea of an operation for the removal of the supposed ovarian tumor. In the afternoon Dr. Agnew saw her with Dr. Wilson and myself, and it was decided that the attempt should be made on the following day.

Accordingly, on the 25th, at noon, ether was administered by Dr. G. P. Sargent, of Bryn Mawr, and, in the presence of Dr. Wilson and Dr. Agnew, I opened the abdomen by an incision in the median line. After dividing the wall I came to what seemed to be a cyst, and passed in an ovariotomy trocar, when a very free evacuation of liquid, straw-colored and ropy, but clear, took place. It was now apparent that the liquid was contained in the peritoneal cavity, and that there was a large solid

mass lying among the intestines. This tumor was soft and doughy, like a placenta; it seemed to belong to the mesentery, since, although somewhat movable, it was firmly attached to the posterior wall of the abdomen, rather high up. The surface of the mass having been slightly lacerated, there was somewhat free bleeding, which was checked with some difficulty by ligation with carbolized catgut, and by the application of a cautery-iron. The wound was now closed with two large pins and a ligature cast around them, and with metallic sutures; a sheet of raw cotton was applied over the whole belly, and secured by a bandage.

The patient rallied considerably, and, after the effects of the ether had passed off, became quite sensible; but she soon began to sink, and died on the 27th, about forty-eight hours after the operation. No autopsy could be obtained, so that the exact nature and connections of the tumor must remain a matter of conjecture.

The notable points in the case now detailed seem to me to be the occurrence of a solid tumor, probably of malignant character, and apparently connected with the mesentery, in a young woman recently married; its resemblance in its physical appearances to the pregnant womb; the very sudden change that took place by a fresh effusion into the peritoneal cavity, and the obscurity which even then existed as to the real nature of the case. Even with the most accurate diagnosis, effective treatment would have been out of the question, and I can not but think that my suspicion of pregnancy, erroneous as it proved to be, really prolonged the patient's life, which would have been almost necessarily sacrificed by earlier interference.

THE REPORT OF THE COMMITTEE ON METEOROLOGY AND EPIDEMICS, for the years 1881 and 1882, was then read by Dr. JOSEPH G. RICHARDSON.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held December 12, 1883, Dr. GEORGE F. SHREADY, President, in the chair.

ANOMALIES IN THE DEVELOPMENT OF THE LIVER.—Dr. F. FERGUSON presented three specimens of anomalous development of the liver, and referred to other cases which he had met with. Perhaps the form of anomalous development first in the order of importance was that in which the right lobe was much larger than normal, often at the expense of diminished size of the left lobe. It might extend down to the crest of the ilium, and, being club-shaped, constitute an apparent tumor in that region which was liable to puzzle the diagnostician. Moreover, it might cause pressure upon the ureter, or ascending colon, and interfere with the function of those organs. The next in order of importance was the hypertrophied or enlarged left lobe. This form he had sometimes found developed at the expense of the right lobe. It was liable to be mistaken for a new formation. A third anomaly was the presence of but a single lobe. Dr. Ferguson had seen only one example of this kind, in which the liver formed almost a perfect hemisphere. A specimen was presented, composed of one large lobe with four small ones on its lower surface. Of this form he had seen two or three examples. Another form was that in which the liver was divided by a large number of sulci, segregating numerous small lobes, in one of the specimens presented reaching as high as twenty in number, and in another specimen to a still greater number. The condition was not due to disease.

PYOSALPINX.—Dr. Ferguson also presented specimens removed from a patient with the following history: She was twenty-two years of age, married, a housekeeper. On the 27th of November last she was suddenly seized with acute pain in the chest, and suffered from dyspnea and vomiting, in which condition she entered the hospital a few hours later. She had had dropsy for some time, and had been in a hospital for the relief of that symptom. On admission, the face was cyanosed, there was dyspnea, she complained of pain in the chest, the

respiration was rapid, and the temperature was elevated, but not above 103° F. at any time. There was a loud blowing murmur heard at the base of the heart. The urine contained albumin. Death took place some hours after admission. At the autopsy there was oedema of the legs below the knees, the peritoneum contained twelve ounces of serum, there was no evidence of peritonitis, there were indications of pleurisy with some effusion, there were extensive vegetations on the mitral valves, and dilatation of the cavities. The lungs were markedly oedematous and congested; the liver contained fat; the spleen was larger than normal, pigmented, and congested; the stomach and intestines were congested in places. The left kidney was slightly larger than normal, and the seat of chronic diffuse nephritis; the right was markedly atrophied. The bladder and uterus were normal; the ovaries were displaced downward and forward, and retained by adhesions. The Fallopian tubes were the seat of pyosalpinx, the right containing a greater amount of purulent fluid than the left. On microscopical examination, numerous ciliated columnar cells were found in the fluid removed from the Fallopian cysts.

DERMOID CYST SUSPECTED ON MICROSCOPICAL EXAMINATION OF THE URINE.—Dr. C. HEITZMAN presented a specimen of urine which he regarded as coming from rather a unique case. Last year a physician brought him a specimen of urine which had been passed by a woman about fifty years of age. Every two, three, or four weeks she passed an enormous quantity of whitish lumps with her urine, accompanied by excruciating pains. The specimen which was brought him looked floccy, and presented a glassy, shining appearance. Under the microscope it proved to be composed almost entirely of horny epidermal substance, with a comparatively large number of crystals of urate of sodium in the form of sheaves. The microscopical symptoms pointed to a dermoid cyst, which from time to time discharged its contents into the pelvis of the kidney. He expressed the opinion that, if the patient suffered great pain and her health was being impaired, it was advisable to cut down and remove the cyst. He had heard nothing further of the case until about two weeks ago, when her physician wrote that the patient's condition continued the same as it had been for the past thirty or forty years, with rupture of the supposed dermoid cyst every two or three weeks. Aside from this fact and the presence of laryngitis, and, at times, of hemorrhoids, the patient was in good health.

VALUE OF THE ELASTIC LIGATURE.—Dr. J. A. WYETH presented the remains of the isthmus of an enlarged thyroid gland which had been successfully brought away by an elastic ligature wound around it several times, and fastened by adhesive plaster to the integument of the throat. The ordinary ligature had previously been tried, but had broken down and led to hemorrhage. The goitre had been removed successfully by excision.

ANGIOMA OF THE RIGHT VOCAL BAND.—Dr. L. ELSBERG presented the specimen, which had been removed about a week before from the right vocal band, near the anterior commissure, from a man, twenty-eight years of age, whose profession was that of a vocal teacher. In the mirror the tumor appeared to be of the size of a large pea. It was dark in color, rather soft to the probe, and microscopically presented a spongy appearance, being largely composed of blood-vessels and some connective-tissue elements. This was the second specimen of the kind which Dr. Elsberg had seen, and there were in all literature only about ten cases on record of angioma of the interior of the larynx. The majority occurred on the right vocal band near the anterior commissure, a fact which possibly could be accounted for by the distribution of the blood-vessels.

A STATED meeting was held December 26, 1883, Dr. GEORGE F. SHRADY, President, in the chair.

DILATATION OF THE STOMACH.—Dr. JOHN C. PETERS had recently seen a case of very great distension of the stomach, in which the patient, a woman, retained food for two or three days and then vomited it up in very large quantities in a pretty thoroughly digested condition. A small tumor could be felt, supposed to be in the neighborhood of or at the pylorus. These symptoms had existed between eighteen months and two years. The patient was greatly emaciated, but was not cachectic. She was so feeble that he did not consider it safe to introduce the œsophageal tube. This was the third case which he had seen of over-distension of the stomach, due to a tumor, all occurring in females.

Dr. VAN GIESON recalled a case of enormous distension of the stomach, which had been seen by Dr. Flint, who believed it to be due to stricture of the intestine. The patient became progressively emaciated, and at the autopsy the dilatation was found to have been due to paralysis. There was no stricture or tumor.

Dr. PETERS added that the patients whom he had seen suffered a great deal of discomfort on being turned from side to side.

Dr. R. W. AMIDON had seen three cases of supposed dilatation of the stomach, in two of which he had introduced the œsophageal tube on two different occasions, but had never been able to withdraw anything but mucus. The patients were greatly emaciated. No autopsy had been made.

FLOATING KIDNEY.—Dr. AMIDON also mentioned having seen a patient whose condition suggested the question whether floating kidney was usually attended by albuminuria.

Dr. G. L. PEABODY said that, out of a great many autopsies, he had not seen a single instance of true floating kidney, and he was, therefore, inclined to doubt whether all cases diagnosed to be such during life would stand the test of a post-mortem examination. At any rate, there had not been a sufficient number of reliable cases reported to enable us to generalize with regard to the usual condition of the urine.

ENDARTERITIS OBLITERANS IN EPITHELIOMA OF THE PENIS.—Dr. PEABODY presented a portion of the penis, amputated for epithelioma, the interest of which centered in a condition which he had now seen in three cases of epithelioma—namely, endarteritis obliterans. The patient was a man, seventy-one years of age, who, two years ago, first noticed a small pimple, which was painful, on the lower aspect of the foreskin. The pimple continued to grow, and three months ago ulcerated. The penis was then removed. The lesion to which he would call attention was first noticed in the arteries of the brain, and was then believed to be due to syphilis. Dr. Peabody, however, had seen it in the lungs in cases of chronic phthisis, in chronic nephritis, and in epithelioma in non-syphilitic subjects. On the intima of the blood-vessels was to be seen fully formed connective tissue occluding their caliber.

Dr. AMIDON had observed a similar condition in a case of sarcoma of the humerus in 1879, but, as attention had not then been called to the true pathology, he had regarded it as due to secondary deposits.

MILIARY ABSCESSSES OF THE KIDNEYS WITHOUT KNOWN CAUSE.—Dr. BEVERLEY ROBINSON presented a specimen which had been removed from the body of a domestic, twenty-one years of age, who was admitted to Charity Hospital, August 31st, in a condition of emaciation and of pregnancy at about the third month. She complained of incontinence of urine and of pain on passing it. Within a few days irregular sweats and chills developed, there was vomiting, and the urine was full of pus. October 21st, when transferred to the medical ward, her condi-

tion was very bad indeed; she weighed only about eighty pounds. There was almost constant vomiting, and there was pain on pressure over the region of the kidneys. She miscarried October 24th. Immediately after the miscarriage she seemed to do well, but began to vomit during the night, and died in a condition of exhaustion soon afterward. At the autopsy the lungs were found to be oedematous, with some adhesions at the posterior aspect of the right apex. The heart was normal. The liver weighed seven pounds, and contained fatty deposits. The spleen was congested. The kidneys weighed nine ounces each, and their surfaces were studded with milary abscesses. The bladder was normal. There were no tubercular deposits anywhere to be found, nor were there metastatic abscesses elsewhere than in the kidneys.

PERFORATION OF THE PLEURA.—Dr. ROBINSON also presented a lung with the pleura removed from a patient who had suffered from pleurisy and chronic phthisis. There was an opening from the lung into the pleura at a point of old adhesion, which, by its valve-like form, showed the possibility of a communication existing between the lungs and the pleural cavity without there being an interchange of fluids.

In the absence of a microscopical examination, Dr. PEABODY was disposed to look upon the first specimen presented as one of tuberculosis rather than of milary abscess.

PYELO-NEPHRITIS.—Dr. J. A. WYETH presented the kidneys, ureters, and bladder of a man who died in his twenty-sixth year. He had been in good health up to two years ago, when he came to Dr. Wyeth with hemorrhoids, of which he was cured. About three months later he returned, complaining of frequent desire to pass water. After six months' duration of this symptom he began to have elevations of temperature, and there were certain signs of hectic. Slight consolidation was discovered at the apex of either lung. He was sent to the hospital, where he died. The specimens showed the anatomical changes of pyelo-nephritis and chronic cystitis very well. One of the ureters was markedly dilated. The bladder symptoms had been so much more marked than those of the kidneys that three weeks ago Dr. Wyeth attempted the operation of cystotomy. Some time before, when operating for hemorrhoids, he had given ether, which the patient took badly, it being necessary twice to resort to artificial respiration. On the present occasion, when about to do Thompson's operation of cystotomy, he gave chloroform. He had scarcely made an incision through the skin when the pulse flagged, the heart stopped, and respiration ceased. A blow over the heart started that organ, and, after about five minutes' artificial respiration, the breathing went on regularly. The operation was not completed. In the light of the autopsy, doubtless the operation would have done no good had it been completed. Disease of the kidneys had only been suspected. He inquired what had been the experience of those present regarding the value of cystotomy in chronic inflammation of the bladder. Sir Henry Thompson had spoken very favorably of it. Dr. Wyeth had had two cases in which he had thought of doing the operation. He would prefer the lateral incision.

Dr. J. P. GARRISH had done the operation once with good results.

Dr. PEABODY thought that the question of eliminating disease of the kidneys was a more important one to solve, on account of its difficulty, than that of drainage of the bladder.

The President thought that pyelo-nephritis and the accompanying danger of administering an anæsthetic would contraindicate cystotomy.

Dr. WYETH thought that, while pyelo-nephritis rendered cystotomy less likely to prove successful, he would prefer to give the patient the benefit of the chance, notwithstanding the greatness of the risk.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

A STATED meeting was held January 3, 1884, the President, R. A. CLEEMANN, M. D., in the chair.

OÖPHORECTOMY.—Dr. E. E. MONTGOMERY corrected a statement made in the report of the case of oövariectomy narrated by him at the meeting of December 6, 1883. [See the journal for December 22, 1883, p. 698.] *Silk ligatures*, not catgut, were used to tie the pedicles. The convalescence of the patient had been very satisfactory. The temperature did not rise above 99° F. In performing this operation no antiseptic was used, but all instruments, sponges, etc., were washed in boiling water, and boiled water was used in washing the wound and abdominal cavity. The mental condition of the patient was such that she was kept constantly under mechanical restraint, and on one occasion when she had been left alone for a few minutes she tore all the dressings off the wound, and at the next visit it was found bare, but no bad result followed. The sutures were removed on the eighth day. Some pain in the lower part of the abdomen and slight fever began on the twenty-fifth day, but she had since improved again. Her mental condition was at present better than it had been for a year before the operation, and she could now converse rationally.

SEPTICÆMIA AFTER ABORTION.—Dr. W. H. PARRISH reported the following case: A young woman, twenty years of age, came into the Philadelphia Hospital in the finishing stages of an abortion, which had been coming on for some days. The cause was unknown, but was probably instrumental. At the time he first saw her, three days after her admission, her temperature was 103° to 104° F., and her pulse 150. She had had a chill before admission, her abdomen was distended and tender, and the uterus was very sensitive. The right parotid gland was swollen and painful. It continued to enlarge, and, fearing septicæmia, he gave fifty grains of quinine daily by the rectum, as the stomach was too irritable to retain it; one ounce of whisky was given by the mouth every hour, day and night. A small quantity of morphine was given to relieve the abdominal tenderness. The pulse and temperature fell rapidly, but the gland continued swollen and painful; it was quite hard, but was discolored. There were no chills now, but, fearing the presence of pus, he made an opening by Hilton's method, incising the skin and using a director to tear an opening through the gland tissue. This opening was enlarged by passing a pair of forceps, closed, along the groove of the director, and withdrawing it opened. The opening gave exit to two or three fluidrachms of pus. The gland now improved in appearance, but another abscess opened behind the gland and discharged freely. The two abscesses did not communicate. The patient was now convalescent.

OFFICERS OF THE SOCIETY FOR 1884 were then elected as follows:

President, RICHARD A. CLEEMANN, M. D.; *Vice-Presidents*, B. F. BAER, M. D., W. T. TAYLOR, M. D.; *Secretary*, W. H. H. GITHENS, M. D.; *Treasurer*, ALFRED WHELEN, M. D.; *Librarian and Curator*, T. HEWSON BRADFORD, M. D.; *Councillors*, R. P. HARRIS, M. D., LEWIS D. HARLOW, M. D., WILLIAM GOOD-ELL, M. D., T. M. DRYSDALE, M. D.; *Publication Committee*, JOHN H. PACKARD, M. D., JAMES V. INGHAM, M. D., ELLIOTT RICHARDSON, M. D., B. F. BAER, M. D.

W. H. H. GITHENS, M. D., *Secretary*.

THE PROPOSED MARINE HOSPITAL ON STATES ISLAND is meeting with the usual opposition shown by the people of a neighborhood in which the establishment of a hospital is contemplated. Although not unnatural, this feeling is altogether unjustifiable, and we can not suppose that in this instance it will be accounted as of much weight.

Reports on the Progress of Medicine.

MATERIA MEDICA, THERAPEUTICS, AND TOXICOLOGY.

BY GASPAR GRISWOLD, M.D.

THE ACTION OF CONVALLARIA MAJALIS.—Dr. George Herschell ("Lancet," Oct. 27, 1883) describes a case in which bad effects followed small doses of the tincture. The patient was suffering from a moderate degree of cardiac weakness and irregularity, without any ascertained organic lesion. He had been taking digitalis for some time with more or less benefit, when the author determined to try the effect of convallaria. He began with five minims of the tincture, three times a day, but was obliged to stop after a few doses on account of the remarkable effects produced. Almost immediately after each dose the pulse became nearly imperceptible at the wrist, and the patient suffered from a sense of oppression over the sternum, nausea, cold feet, vertigo, and a feeling of utter prostration. These symptoms lasted two hours and then subsided, only to reappear when the next dose was taken. The patient again improved when the convallaria was stopped, and digitalis given in its stead. This case is interesting from the fact that all writers on convallaria have especially emphasized the view that no unpleasant symptoms are to be feared from its use, and that no toxic effects have been observed. It is also interesting to observe that the same patient, who was so unfavorably affected by convallaria, was subsequently much benefited by digitalis. This would seem to indicate that these two drugs are far from being identical in their action.

THE CHEMICAL NATURE AND PHYSIOLOGICAL ACTION OF NITRO-GLYCERIN.—Dr. M. Hay ("Practitioner," June, 1883) quotes the conclusion of Dr. Weir Mitchell and Dr. Reichert that nitrite of amyl has the same action as nitrite of sodium or potassium. Since nitrites of bases so different as amyl from sodium or potassium act alike, the inference is unavoidable that the action of all three depends upon their common factor, nitrous acid. Now, nitro-glycerin acts almost exactly like nitrite of amyl, and yet nitro-glycerin is classed by all chemists as a *nitrate of glyceryl*. To clear up this apparent inconsistency, the author has made experiments which prove that, although nitro-glycerin in itself contains no nitrous acid, yet nitrous acid is formed by decomposition if nitro-glycerin is mixed with defibrinated blood. The inference is, therefore, that nitro-glycerin acts as a *nitrite* by virtue of nascent nitrous acid which is developed on mixing nitro-glycerin with blood. Dr. Hay finds that nitrous acid does not, as Gamgee believed, form a compound with hæmoglobin; on the contrary, it merely induces the further oxidation of hæmoglobin into methæmoglobin, a chocolate-colored substance with a characteristic spectrum. The author believes that the physiological action of the nitrites (including nitro-glycerin, which acts as a nitrite) is in some way an outcome of their chemical relations with hæmoglobin.

INTRA-PERITONEAL INJECTIONS OF ALBUMINATE OF IRON FOR ANÆMIA.—Professor A. Vachetta ("Gazzetta degli Ospitali," May 2, 1883) proposes the intra-peritoneal injection of the albuminate of iron as a means of curing chronic anæmia. He recommends that two grammes of the albuminate of the ammonio-citrate of iron be dissolved in five cubic centimetres of cold distilled water, filtered, warmed, and injected with a Pravaz veterinary hypodermic syringe. The point of selection at which to puncture the abdominal wall is usually taken near the umbilicus. The author made numerous experiments upon animals, and was much gratified with his results. He never observed the least peritonitis as a result of the operation. There were

iron and some albumin for a short time to be detected in the urine. The color of the red corpuscles became more vivid, and their number was increased with striking rapidity. The author recommends the procedure as safer and better than Ponfick's intra-peritoneal injection of blood, and advises a trial of it in cases of extreme and obstinate anæmia.

INTRA-PERITONEAL AND INTRA-VEINUS INJECTIONS FOR CHOLERA.—Dr. B. W. Richardson ("Med. Times and Gaz.," Aug. 4, 11, 18, 25, Sept. 1, 1883), in a paper on feeding by the veins and on intra-peritoneal injection in the collapse of cholera, first notices the remarkable effects which have so often followed the intra-venous injection of warm saline solutions. The fact that the stimulation in these cases is only temporary he explains on the ground that saline solutions contain no food elements, and suggests the following solution as a substitute: White of egg, four ounces by weight; common salt, one drachm; phosphate of sodium, one scruple; clarified animal fat, one ounce; pure glycerin, two ounces; water to one pint. *Preparation:* Dissolve the salt and phosphate of sodium in the water, and, having well whipped the albumen, add it also to the water. Place the mixture on a water-bath, raise to 135° Fabr., keep stirring, and digest at this temperature for one hour. This constitutes an artificial serum. Melt the fat in the glycerin, and add to the serum at 120°. Cool to 80° and filter. The fluid thus obtained is pinkish, saline, and of a specific gravity of 1.038. It dissolves semi-fluid blood with great readiness. It takes up one third more caloric than water in the same time, and, in cooling, it restores nearly one third more. It should be injected into the veins very gradually. The best apparatus is a large funnel connected with the cannula in the vein. In this way there is no danger of introducing air, and the fluid can be introduced steadily, the pressure being modified by raising or lowering the funnel. Syringes are poor instruments of transfusion.

Dr. Richardson maintains that the operation of peritoneal transfusion was originally proposed by him, his views being entirely based on physiological research. He found that distilled water, warmed to the temperature of the body, might be injected, without the slightest danger, into either the peritoneal cavity or the cellular tissue of warm-blooded animals, provided that the quantity injected was less than one fifth the weight of the animal. When the body was greatly reduced by the removal of fluid, the absorption of the injected water took place with astonishing rapidity. The practice was tried in two cases of cholera in man, in the author's service. In one case, eight pints were injected into the peritoneal cavity; in the other, ten pints. In both cases the patients recovered; but in neither was the collapse so complete that recovery might not have occurred if the injection had not been made.

The author cites many cases in which he has personally observed remarkable restorative effects produced by injections of water and of saline solutions into the veins and into the peritoneal cavity. He regrets that the improvement in these cases was usually only temporary, collapse being again produced by the causes which had induced it originally. The solution the preparation of which he describes he does not seem to have had an opportunity of using as yet, and he recommends its use on theoretical inferences based on an extended experience.

METALLO-THERAPEUTICS.—In a paper on "metallo-therapy" ("Arch. of Med.," Oct., 1883), Dr. G. Peckham calls attention to the fact that in France its claims are sufficiently well recognized. This is apt to be overlooked in this country, where very few know what the term metallo-therapy means, and no interest is taken in the subject. In Paris, the investigations of Barq and the corroborative labors of Charcot and Vigouroux have widely disseminated the details of the subject, and every one is familiar with them. Taken together, they form one of the most

striking and singular chapters in the history of medicine. The term metallo-therapy, in the sense in which it is at present employed, includes the whole subject of modifying sensibility and other nervous functions by the local application of pieces of metal, magnets, electric currents, etc. Charcot has applied the term *athésio-gènes* (sensation producers) collectively to all the agents employed in metallo-therapy, and this new word has become incorporated with the literature of the subject. A great deal has been written, in a more or less vague and desultory way, about the effects of metals locally applied, but the subject was first formulated and brought practically before the profession by Dr. Burq a few years ago in Paris. He found that certain patients affected with different degrees of anesthesia, from numbness of a hand or finger up to complete hemianesthesia, had their symptoms relieved by the application of a metallic disc to the affected part. Some patients were benefited by copper, others by silver, still others by gold, etc., each having, however, a special metal which was most active in his particular case. In one case anesthesia of a hand was entirely cured by wearing a thumb of the active metal; in other cases, rings, bracelets, and so forth, were successful. Hysterical attacks were also prevented or cut short, as in the case of Pauline at the Hôpital Cochin. This patient was hysterical and subject to violent paroxysms, ending in unconsciousness. These attacks were almost instantaneously cured by the application of a disc of copper to the epigastrium. The subject was further pursued at La Salpêtrière by Dr. Burq, and finally, in 1876, a commission was appointed by the Société de Biologie to study the effects produced by the application of metals to the cutaneous surface, and to report. The commission consisted of MM. Charcot, Luys, and Du Montpallier, and they reported to the society, on April 14, 1877, as follows: 1. The application of certain metals to the skin of hysterical and anæsthetic patients, and in several cases of organic lesions, determines important modifications, of which the principal is the return of general and special sensibility. 2. All patients are not susceptible to the same metal, gold, iron, and copper giving results, positive or negative, according to the patients submitted to experiment. 3. The patients feel at first a prickling sensation at the point of application; this is followed in a few minutes by a return of sensibility in a zone more or less extended about the point of application. 4. The anesthesia is not cured, but rather *displaced*—appearing at the corresponding point on the other side of the body and returning to its original site when the metal is removed and the experiment is ended.

A great deal of skepticism has been excited by these reports, partly because the facts were in themselves unusual and hard to believe, but mainly because the patients were nearly always hysterical women. There has been, on this account, a tendency from the first to interpret the phenomena described as dependent rather upon the imagination of the patient than upon an influence actually exerted on the nerves by metals. These objections are answered as follows: 1. The application of metallic discs appeals less to the imagination than almost any other form of treatment. Less imposing than the buzz of the faradaic battery, less impressive than a collection of galvanic cells, it has still had effects where these had been persistently tried in vain. Patients often say: "You do not expect these (referring to the discs) to do any good?" 2. Healing often occurs when both patient and physician least expect it. Experimenters have applied a metal, thinking that they had a certain one when they had another, and have discovered their mistake only when they found that the usual effects were wanting. 3. Patients in Germany, France, England, and America, and in widely different circumstances, have described the same sensations and experienced the same results.

No satisfactory theory has yet been advanced to explain the phenomena of metallo-therapy. Experimenters talk about the electric tension of parts being modified by the proximity or contact of substances to which they happen by their peculiar constitution to be susceptible, but the explanation is neither very clear nor very satisfactory. Schiff has proposed a molecular theory, in connection with which he assumes that the nerve molecules of hysterical patients are abnormally mobile, and that, in the course of the nerves supplying the anæsthetic parts, there are abnormal vibrations of molecules which disturb and prevent the normal conduction of impressions. He fancies that the approximation of a metal exercises a determining influence upon these erratic molecules and holds them, at least temporarily, in an equilibrium which restores their power of conducting sensations. This theory has the negative merit of being so far beyond our conception of tangible things that we can not refute it.

Whatever may be the theories, the facts of metallo-therapy seem well established, and, if hysterical patients can derive some benefit from this treatment, they are certainly entitled to it, and are likely to fare better than when subjected to frequent hypodermics of morphia and inhalations of chloroform.

HABITUAL CONSTIPATION.—Dr. J. M. Granville ("Brit. Med. Jour.," May 26, 1883) describes three varieties of habitual constipation which he is usually able to relieve without using the ordinary aperients, and gives the prescriptions which he commonly employs in their treatment. He first calls attention to a form of constipation in which the muscular layer of the bowel is at fault, and the presence of ingesta does not excite it to contraction. In these cases there is apt to be much discomfort from eructations, incarcerated flatus, and colicky pains. It is worse than useless to employ ordinary aperients in such a condition as this; they only irritate, without strengthening, the nerves, on whose healthy activity everything depends. When, therefore, there is this form of constipation present, the author gives the following prescription, and with very uniform success: *R* Sodii valerianatis, gr. xxxvj; tinct. nucis vomice, 3j; tinct. capsici, ℥ xlvij; syr. aurantii, 3jss.; aquam ad. 3vj. *M. Sig.* 3ss. in water, t. i. d., half an hour before meals.

In a second form of habitual constipation the difficulty seems to result from a deficiency of glandular secretion, generally, throughout the intestine. This is manifested by a peculiarly dry and earthy character of the dejecta, and is treated by the author as follows: *R* Aluminis, 3ij; tinct. quassie, 3j; inf. quassie, 3vj. *M. Sig.* 3j, t. i. d., after meals.

The third form of constipation depends upon a failure to cultivate regular habits of defecation. This may generally be relieved by directing a regular attempt to go to stool, and by the use of the following draught, taken immediately after rising—not after waking. It will be observed that it is not an aperient in the ordinary sense of the term. It is, as a rule, neither necessary nor desirable to continue taking it for more than a fortnight. In most instances it will be found to re-establish a normal habit in a week or less: *R* Ammonii carbonatis, 3j; tinct. valeriane, 3j; aq. camphoræ, 3v. *M. Sig.* 3j immediately after rising.

LEAD POISONING.—Dr. H. von Wyss ("Arch. f. path. Anat. u. Physiol. u. f. klin. Med.," xlii, 1, 1883), as a result of some experiments upon lead poisoning in animals, finds that the metal has great affinity for muscular tissue. He fed a dog for a year upon small quantities of lead, varying from one to three grains daily, and using the acetate mixed with the dog's food. After death, the different tissues of the dog were subjected to a careful quantitative analysis, with the following results: Twelve grammes (3ij) of brain contained no trace of lead; 20 grammes (3j) of liver contained a slight trace of lead; 21 grammes (3v) of kidney contained a slight trace of lead; 43 grammes

(3 xj) of bone contained a slight trace of lead; 55 grammes (3j 3vj) of muscle contained one centigramme and a half (one fourth of a grain) of lead. This dog was so thoroughly poisoned that there was a blue line upon the gums for months before death.

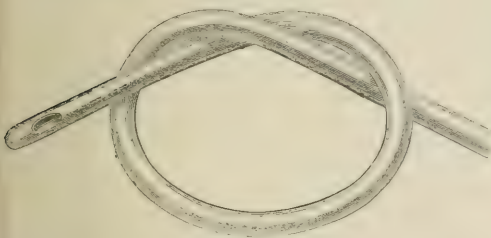
INVERSION IN CASES OF APPARENT DEATH.—Dr. Henry R. Silvester, in a paper on the inversion of patients in apparent death from chloroform, drowning, etc. ("Lancet," May 19, 1883), argues, on physiological grounds, that this proceeding is injurious: In the first place, because it has a tendency to increase the engorgement of the right side of the heart and large vessels; in the second place, because inversion must be useless as a means of forcing on the general circulation, since the heart is unable to act on account of pulmonary congestion, and the distension of its cavities is only aggravated by the inverted position; thirdly, the venous blood sent back to the head by gravitation only deepens the coma which already exists. The best position for the patient during efforts at resuscitation is flat upon the back, with the head and shoulders very slightly raised. This position is favorable for the relief of congestion of both head and lungs; both sides of the chest are free to expand, and the circulation is restored most readily.

New Inventions, etc.

THE SILK CATHETER.

The silk catheter, referred to in the clinical remarks by Dr. Robert F. Weir, published in the last issue of the journal, page 16, is deserving of a more explicit description than could be given under the circumstances which called for a mention of it.

The accompanying cut shows that the catheter is similar in form to the ordinary cylindrical French or English instrument.



Unlike either, however, it possesses the combined advantages of flexibility quite equal to that of the rubber catheter, a much greater durability than either the French or the English instrument, and an entire absence of the swelling after it has been used, which always renders the rubber one useless in a comparatively short time. The two latter qualities have been tested by the daily use for over six months of the same catheter in an individual case.

Another and a very important quality is the extreme smoothness of the eye, which is woven (selvaged) in the catheter, instead of being punched or cut out, as in the ordinary ones.

As a drainage-tube it is superior to those of rubber, in that it will not become brittle and break, as the rubber tubes are quite apt to do. The sizes range from 5 to 12, English scale, and can be obtained from Mr. W. F. Ford, of Messrs. Caswell, Hazard & Co., under Fifth Avenue Hotel.

A GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY has been organized in Paris.

Miscellany.

THERAPEUTICAL NOTES.—*Physiological Properties of Maltose.*—In a note to the Paris Academy of Sciences, M. Bourquelot ("Gazette hebdomadaire de médecine et de chirurgie") refers to a previous paper in which he had insisted on the alimentary importance of maltose—the sugar which, it is known, is formed in large quantities in the digestion of amylaceous substances—and had made the provisional supposition that this sugar was directly assimilable. But this hypothesis, resting solely on the resistance of maltose to the digestive ferments of certain animals, and on the fact of its fermentation in the presence of yeast of beer, was not sufficiently justified. M. Bourquelot has therefore been continuing his investigations to determine whether it is borne out by the manner in which maltose comports itself in the system, or whether, as is granted in the case of cane sugar, it is entirely transformed into glucose before passing into the blood. Although, as regards the diastase of malt and of the saliva, it has been asserted, contrary to the conclusions of Brown and Heron, that the prolonged action of these ferments causes the transformation of a certain proportion of maltose into glucose, the question arises whether, in the absence of all germs, these ferments really cause this transformation. Two-per-cent. solutions of pure maltose, added to diastase in solution or in saliva, previously filtered by means of the apparatus of Klebs and Tiegel, were kept at temperatures of 16° and 38° C. (the latter being slightly above the normal temperature of the body). No change was observed in the saccharine matter, even at the end of twenty-four hours, nor was there any separation of it if the experiments were conducted in the presence of carbonic acid. Invert sugar, as has been shown by Méring, has no action on maltose; but, although neither the diastase of the pancreas nor the invert sugar of the intestinal juice has, singly and alone, any action on maltose, it was necessary to determine whether, as they are mixed in the intestine, they may not transform it. Experiments showed that such was not the case. Furthermore, maltose resists artificial gastric juice, and even the pancreatic juice obtained by macerating the gland in water, unless the action is prolonged for more than six hours. If the experiment is continued longer, small quantities of glucose are formed. However, the liquid becomes filled with bacteria, a complication that can not well be prevented, as pancreatic juice will not bear filtration through porous earth. Intestinal juice, even more than pancreatic juice, becomes filled with bacteria rapidly. Collecting after a time in a flocculent mass, they fall to the bottom of the vessel. These microscopic organisms, if not a cause of error, are at least a cause of doubt as respects the conclusions to be drawn from the results obtained. When the intestinal fluids are not filtered, they transform maltose and saccharose, sometimes in part, sometimes entirely. These results are in accord with Brown and Heron's. When, however, the intestinal fluids are filtered with Klebs's apparatus, in most cases there is no transformation, either of maltose or of saccharose. Rarely, traces of glucose may be discovered. Nevertheless, in the case of maltose, the change of any part of it into glucose may be attributed to errors of manipulation.

It is interesting to know whether the acids that are formed in the stomach are able to transform maltose, under the conditions in which they act in physiological digestion. A one-per-cent. solution of maltose, added to a twenty-per-cent. solution of hydrochloric acid, at a temperature of 38° C., was unchanged after a period of thirty-six hours. Lactic acid, under like circumstances, failed to produce any change in maltose. On the contrary, when saccharose was subjected in the same way to the action of hydrochloric acid, seventy per cent. of it was transformed at the end of six hours, and ninety per cent. at the end of twelve hours. In the presence of lactic acid, saccharose to the extent of thirty-three per cent. was changed in thirty-six hours.

In view of these facts, M. Bourquelot concludes that it is not easy to maintain that saccharose is converted solely in the small intestine, and not to admit that the hydrochloric and lactic acids in the stomach may be important factors in its digestion. Furthermore, if small quantities of cane sugar pass into the blood-vessels, we may suppose that the carbonic acid constantly formed in the blood may be sufficient for

its transformation. On the contrary, maltose is not transformed anywhere in the alimentary canal except in the intestine. The question remains whether its transformation there is due to a ferment; if it is, this ferment must be different from that of yeast, the latter being without action on maltose, and it is of such a nature that it will not pass through porous earth; if not, the transformation is the result of the action of bacteria.

The Treatment of Cardiac Dropsy.—Dr. James Braithwaite, of Leeds, England ("Lancet," Nov. 17, 1883), calls attention to the fact that in the treatment of cardiac dropsy the infusion of digitalis possesses far greater efficacy than the other preparations of that drug. He does not pretend that there is anything new in this point, but mentions it for the reason that, in the region in which he lives, at least, digitalis is very rarely prescribed in that form in which its diuretic action is most marked. "I have taken the opportunity of asking various medical men about their use of digitalis," he says, "and have only met with one who uses it in infusion." In a case of extreme anasarca from cardiac disease, seen at the request of a brother practitioner, the first words of the latter, when they had withdrawn for consultation, were: "Well, I suppose you will say that it is a case in which no good can be done." He was much surprised at Dr. Braithwaite's reply: "On the contrary, I think it a very promising case." And the sequel proved the correctness of this prognosis. Dr. Braithwaite's custom is to prescribe the infusion freshly prepared each day. "I generally order half a small or medium-sized leaf to be infused, with the addition of a little black tea in about twelve ounces of boiling water, and taken daily. By this means we get the full diuretic effect of the drug in addition to its action on the muscle of the heart." The patient must, of course, be given absolute rest. This treatment, which Dr. Braithwaite has used invariably for a period of fifteen years, has yielded results that he regards as most satisfactory, although "some of the cases have been very remarkable." He does not, however, rely on the digitalis sold in the shops, but, once a year, during some country journey in autumn, collects a quantity of leaves and dries them for use.

Turpentine in the Treatment of Aneurysm.—In the journal for December 8, 1883, mention was made (p. 646) of the use of turpentine in secondary syphilis and in phagedenic sores following fever, as employed by Deputy Inspector-General Nicholson, M. D. Dr. Nicholson reports ("Medical Times and Gazette") a case of aneurysm in the popliteal space in which marked benefit followed the administration of turpentine, which was, however, given for an entirely different purpose. The patient was a man of fair frame, but thin. The aneurysm was of about the size of a swan's egg, fluid, but not pulsating. (The femoral artery had been compressed for a month or more by a well-fitting compressor in Scarpa's triangle.) The arterial tension, as indicated by the pulse, was low. The patient had been put on a spare diet. Constipation having supervened, a turpentine enema was given for its relief. The next morning the aneurysm had become firmly solidified. He says: "On the third afternoon, however, when I left, it had become fluid in its upper part, to the amount, say, of rather more than a teaspoonful. I heard nothing more of the case, except that some time afterward the limb was amputated above the aneurysm. The coagulating power of turpentine had been known to me, but, when giving it inwardly, I was not prepared for such and so sudden an effect in an aneurysm at rest. No doubt I should have followed up the enema by giving turpentine by the mouth, but, the result being an apparently firm solidification of the tumor, and it being to me a wholly new experience, I waited too long. I venture, however, to think that the result is worthy of being borne in mind in any similar case, and bettered."

ON SUTURE OF BONE IN TRANSVERSE FRACTURE OF THE PATELLA.—This procedure (fastening the fragments together by means of silver wire) was fully discussed at a recent meeting of the Société de Chirurgie ("L'Union médicale," Nov. 16, 1883). M. Chauvel had collected the statistics of forty-three cases in which the method had been adopted, and in which the mortality was about five per cent. All but four of them had occurred since the commencement of the Listerian era. In twenty-five cases, the fractures were recent. The chief danger arose from the necessity of opening the knee joint. In his opinion this operation ought never to be performed excepting when coaptation was

absolutely impossible in any other way. M. Lucas-Championnière thought that, with the observance of strict antiseptic precautions, suture of the bone might be safely resorted to immediately after the occurrence of the fracture. He cited seven cases brought before the London Chirurgical Society by Mr. Lister, "all of which were more or less successful." M. Richelot considered that in fractures of the patella the knee joint was more frequently disabled through atrophy and paralysis of the triceps, caused by arthritis, than as a direct result of the injury; and he therefore recommended electrical treatment of the muscle before resorting to a hazardous operation merely in order to bring the pieces together. The weight of opinion expressed by the four other gentlemen, whose observations are reported, was decidedly unfavorable to "immediate arthrotomy." M. Verneuil declared that, in his own case, he would not allow Mr. Lister himself to perform it. In his treatment of fractures of the patella, even when complicated with wounds, he had obtained excellent results, when the triceps was in good condition, from a simple plaster-of-Paris *attelle*, with three India-rubber drainage-tubes, and ten *agrafes*, and he had found that a ligamentous union was quite sufficient. He desired to enter his formal protest against the adoption of extreme measures for the relief of a condition which in itself was unattended with danger to life.

THE VALUE OF TAXIS IN INTESTINAL STRANGULATION.—At the recent meeting of the French Association for the Advancement of Science ("Revue de chirurgie," Nov. 10, 1883), M. Henri Henrot reported two cases of intestinal strangulation—characterized by excessive pain, constipation, and the discharge of gas *per anum*, together with a well-marked abdominal tumor and symptoms of peritonitis—in which the performance of taxis, after producing a loud pathognomonic gurgle, caused the entire subsidence of the tumor. These results, semiologically considered, were regarded by M. Henrot as showing that taxis, when methodically performed, in combination with electrical stimulation of the rectus abdominis (the resistance of the abdominal walls having been previously overcome by the aid of morphine or chloroform), would afford indications sufficiently precise to justify an immediate resort to the knife should the foregoing expedients prove unavailing. The process is carried out in the following manner: The surgeon compresses the tumor with both hands, at the same time thrusting his fingers gently and gradually, but as deep as possible, into the abdomen; he then bears upon the most prominent portion of the tumor, while he directs his efforts toward the supposed situation of the inaccessible constricting ring. The earlier the attempt is made, the greater will be the chance of success. M. Verneuil remarked that the taxis was a very delicate and dangerous operation, scarcely to be ventured upon by unpracticed hands. He was much afraid that, if adopted by the bulk of practitioners, who had not M. Henrot's experience and ability, it would result in evils even greater than those which followed its too prolonged employment in cases of hernia.

"HAMMER-TOES."—According to M. Blum, in a paper read before the Société de Chirurgie ("Revue de chirurgie," Nov., 1883), this malformation, when not hereditary and congenital, makes its appearance at the adult period of life. In three cases of the kind which he had examined after amputation of the limbs, he had found a collection of serum, with inflammation, under a corn on the dorsal surface of the second toe joint, together with a cord-like thickening of the articular capsule—this latter being evidently a secondary lesion. Rejecting the theory which attributes the affection to the pressure exercised by short shoes on second toes of preternatural length, M. Blum regarded it as due to a peri-arthritis resulting from the irritating influence of a neighboring corn. M. Terrier referred to the cases, omitted by M. Blum, in which the deformity was hereditary without being congenital. In such instances it occurred at the age of twelve or fourteen years—often upon both extremities. The speaker had known a family in which every other generation only was thus afflicted. He believed the *orteil en marteau* to proceed from an innate tendency the manifestation of which was delayed for some time after birth. M. Sée remarked that the corn was merely a secondary and consecutive phenomenon. M. Després had known the malformation to be developed at six, seven, and eight years of age, without apparent cause, there not being even a corn to account for it.

Original Communications.

ANTISEPTIC DRESSINGS

AS THEY ARE USED AT THE NEW YORK HOSPITAL.*

By ROBERT F. WEIR, M. D.,

SURGEON TO THE HOSPITAL.

ALTHOUGH but comparatively little of novelty to hospital surgeons can be presented this evening, yet it has been thought that a demonstration of the antiseptics now in use in a large hospital would be not uninteresting to the profession at large. It is in this belief, therefore, that I venture to appear before you. Nevertheless, while there may appear differences in details between the dressings now used and those formerly resorted to, yet it must be firmly kept in mind that the principles embodied in the dressings remain the same as when first set forth by their promulgator, the too imperfectly honored Sir Joseph Lister, whose successful labors in saving life appear to us on this side of the Atlantic worthy of higher recognition than the baronetcy which has just been bestowed upon him.

What we still aim at in the treatment of wounds is to place the divided or injured parts in such a condition as to permit of the best possible drainage, and to keep them at rest as long as may be without frequent renewals of the dressing; and, for the accomplishment of the latter end, we are forced to use such chemical substances as will prevent decomposition. Notwithstanding the desire to avoid the theoretical portion of this subject, one can not escape the conviction that the development of micro-organisms is associated with putrefaction as a cause or immediate concomitant effect. Although much light remains to be shed on sundry points—such as whether one variety can develop into another, whether the poisonous action of germs differs with their growth, and what soils are most favorable to their increase, etc.—yet the prime fact above mentioned is now unquestioned. Somewhat recent investigations, it is true, have shown us that micro-organisms are to be found at all times in the air-passages and the intestines, but the researches of Lister have also taught us that the living tissues have considerable power to resist the development of such germs. This fact explains away the objection so often raised that every scratch should give rise to septicæmia. When, however, the tissues became unhealthy or abnormal, a better soil, so to speak, is furnished for the growth of the micro-organisms. What constitutes the change in the internal organs, however, is yet an unknown quantity. Externally, we can appreciate it easier. A contusion, a laceration, or the damage done at an operation brings about such alterations in the tissues as to impair their antagonizing power, and also to furnish a fruitful soil for development.

It is the aim of antiseptic surgery to neutralize such favorable conditions for germ development. This has been

best done until recently by means of carbolic acid and iodoform.

The details regarding these substances I will not again go over, but would simply say that neither the carbolic gauze of Lister nor the improved gauze of von Bruns, in which castor-oil is used as a substitute for paraffin, is free from the objection that the carbolic acid which it contains has such strong volatile properties that the material, if not used when fresh, is an uncertain staff for the surgeon to lean upon. It will also be remembered that one of the great objections brought against the use of both carbolic acid and iodoform, a still more recent antiseptic, was that they were liable to produce toxic effects, and our surgical literature is studded, and not very sparsely either, with cases in which fatal or alarming complications have occurred from this source. It was for this reason that I welcomed an antiseptic which was more potent, safer, not volatile, and easily obtained everywhere; I refer now to corrosive sublimate. Since I first became acquainted with the excellent antiseptic qualities of this salt, a year ago last March, I have been using it constantly; and it is this personal experience, corroborated by witnessing its effects in the hands of other surgeons while I was abroad this spring, which leads me to present it again to you to-day, and to recommend its virtues. In the north of Germany corrosive sublimate has come to displace iodoform and carbolic acid almost entirely; iodoform, however, is used to some extent in southern Germany, particularly in Vienna; but the healing of wounds I found was more satisfactorily produced in the hospitals of Kiel and Hamburg under the sublimate dressings than anywhere else that it was my good fortune to visit.

Corrosive sublimate is kept in contact with wounds in four or five different ways. Gauze, cheese-cloth, or mull, for instance, is impregnated with this antiseptic, and applied in several layers over the line of union of a wound just as the carbolic or iodoform gauze is employed. We endeavor to increase the absorbing power of this gauze by getting rid of the oily matter in it by boiling it in a weak solution of either soda or muriatic acid, then washing it again in water and drying it. Lately we have succeeded in obtaining it already prepared from the manufacturers.*

But, in order to make an equable pressure upon the tissues as well as to avoid a too frequent change of the dressing, which is apt to occur with gauze alone, materials of greater absorbing power and softness have been resorted to. In this connection peat immediately comes into one's mind. This substance, which I now show, was first employed, mixed with iodoform, at Kiel, and it is there to-day preferred as an absorbent material, the only change in the manner of employment being that with the white peat the German surgeons at present mix some of the black sort, which is more carbonaceous, and, like charcoal, is somewhat antiseptic; one part by weight of the black peat is mixed with four of the lighter colored. I do not think that its advantages over the white are great, although Neu-

* Read before the New York Academy of Medicine, January 17, 1884.

* Chuck & Bros., 71 and 73 Greene Street, New York, who furnish it at four cents a yard.

her places some importance upon it. One of the great advantages of the peat dressing, as pointed out by the latter surgeon, is the fact that it permits of a long period of perfect rest without disturbance by a change of the dressing. I saw patients in his wards who had worn the peat dressing without change for forty-two days. I have myself not felt disposed to leave a dressing on for so long a time as this, for I think that the tendency to septic absorption has usually passed away by the tenth to the fifteenth day, and that there is nothing to be gained by leaving the dressing on for a longer period. Another greater objection to the peat and other absorbent dressings is that they are so bulky as to prevent the easy use of splints, and, hence, in the case of compound fractures, etc., I feel a desire to inspect the parts, to determine the position of the bones, etc., more frequently than once in two, three, or four weeks. In many other cases, however, the long-continued dressing is of great value.

Some time ago we were in the habit of using in these wards a substance obtained from an Indian tree known as jute, employing it carbolized. But it was found that the carbohc acid rapidly disappeared, even more so than from the Lister gauze,* and the dressing therefore fell into disuse, to be revived again, however, when corrosive sublimate came into notice. While abroad I saw a preparation of jute which it would seem would meet any one's ideal. Here is a specimen of the old and of the new kind which I would call your attention to; you will observe that the first specimen, although the best to be obtained in the market here, contains many coarse fibers, and is quite harsh and ropy; the other is free from these faults, and is very soft and silky, and extremely comfortable to the patient. We have still another substance which perhaps absorbs better than any of these; for this also we are indebted to the Germans. I do not know that it is made in this country. This was imported from Tübingen.† It consists of the pulp of wood manufactured into a cottony form for ready conversion into paper. It is capable of absorbing thirteen and a half times its weight of water, while jute has the power of absorbing only four to six, and peat nine or ten times its weight of water.‡ While, therefore, wood-wool has greater absorbent properties than any of the other substances mentioned, it has an advantage over peat in being more cleanly. It is also easy to obtain, and costs here eight cents a pound. It is also mixed with the peat. Neither it nor peat, however, is so soft and easy to a wound as jute.

Lastly, there is a substance which may be used for this purpose, but which I have just tried—a substance which those practicing in the country certainly can always obtain—namely, the ordinary moss of the woods. It requires to be

dried in an oven to kill the insects found in it. It is soft, and has strong absorbent powers; it will take up about four times its weight of water. I am disposed, from its softness and elasticity, to think that this substance would be found to be next to jute as a dressing, and after it wood-wool and peat.

All these substances are prepared for use in a very simple way. The jute and moss are dipped into a solution of corrosive sublimate, 1 part to 1,000 of water, and 50 parts of glycerin. They are steeped all night in this, then wrung out, and allowed to dry in as far as the presence of the glycerin will permit.

The gauze and cotton batting, deprived of oily matters, are immersed in a little different solution, viz.: Corrosive sublimate, 20 parts; water, 4,480 parts; glycerin, 500 parts, which is a one-quarter-per-cent. solution. A slight aniline tinge is given to the gauze to distinguish it from the unimpregnated material. These are the solutions now used in Schede and Kümmel's wards at Hamburg, being somewhat different from those I published last winter. I will only add, it is desirable to have these preparations somewhat freshly made, as often slight deterioration occurs from the change of the bichloride into calomel.*

At the time of the operation a solution of corrosive sublimate—1 part to 1,000 of water (sometimes 1 to 2,000)—is allowed to trickle slowly, but nearly continuously, over the incision.† It is made to run so freely at some of the clinics in Germany that the surgeon and the assistants wear not only a rubber operating coat, but also rubber shoes, in order that they shall not be swamped with the fluid. In order to protect the patient from this deluge, an ingenious device of rubber cloth is resorted to, which you see here. The limb is passed through a hole in a large rubber sheet, which is tightened by a purse-string of rubber tubing, and the upper half of this sheet is then thrown back on the patient's body, as is shown in this drawing, which I have taken from Neuber's work, "Antiseptischen Wundbehandlung," 1883.



The bleeding vessels are tied, not with catgut made according to the Listerian method, but by being put in a bichloride solution—1 part to 100 of water—for ten minutes, and then in a watery solution of 1 to 1,000 for ten to fifteen hours, and afterward wound on bobbins and kept in absolute alcohol. This makes a much better ligature than when the catgut is prepared according to the formula given

* This is easiest tested by dropping some lime-water on the dressing. If a yellow spot is seen, bichloride is yet present; if a black spot appears, calomel has formed.

† In operations involving the thoracic and abdominal cavities the carbohc spray continues to be employed.

* See the "New York Medical Journal" for January, 1880.

† Peat, wood-wool, and deacidified drainage-tubes are imported by M. Lieman, 2 Jones Lane, New York. The sublimate gauze, cotton, and catgut are excellently made by an Ende, of Hoboken, N. J. Peat costs six cents a pound, wood-wool eight cents, and fine jute forty cents.

‡ Walcher. "Mittheilungen aus der chirurg. Klinik zu Tübingen," 1882. Neuber, however, says that peat absorbs sixteen times its weight of water, and wood-wool only eight times its weight. ("Mittheilungen aus der chirurg. Klinik zu Kiel," 1883.)

last year, and which was formerly used in Germany. According to that method, the catgut was kept in a solution of sublimate in alcohol and glycerin, which made it unsatisfactory. We also sometimes make use of the ligature prepared according to the method of Kocher, of Bern—namely, first putting the catgut into the oil of juniper twenty-four hours, and afterward into absolute alcohol. Both of these kinds of catgut are great improvements on the oily catgut of Lister, not slipping, and being much easier to handle, as well as more satisfactorily antiseptic. The chronic-and-sulphurous-acid dry catgut of Lister has been found to be too hard and insoluble, and has therefore been discarded. The possibility of absorption of the corrosive sublimate solution causing toxic effects has been kept in mind, and has led some to the use of a milder antiseptic, such as that suggested by Thiersch, of Leipzig, which, consisting of boric acid, 6 parts, salicylic acid, 1 part, and water, 500 parts, is called the boro-salicylic solution. This is allowed to flow over the wound in the course of the operation, the final washing being made with the corrosive-sublimate solution. Schede, however, informed me that he had employed the corrosive sublimate solution in over a thousand cases, and had found toxic effects in only three or four instances, and then only as a stomatitis or a diarrhoea, not requiring the dressing to be abandoned. I myself have not seen, so far, any poisonous effect from the use of the sublimate solution. It sometimes causes a slight erythema around the edges of the wound, but no more so than do carbolic acid and iodoform, and not so much as does subnitrate of bismuth, which is an antiseptic that has recently been introduced to us by Kocher, of Bern, but which, unfortunately, has no control over erysipelas.

All hemorrhage having been checked and the parts cleansed, you proceed to sew up the wound, using catgut, not silk, for this purpose. If silk be used, it must have been previously impregnated with the corrosive sublimate. Instead of the ordinary interrupted suture, the continued suture is what is now employed, and, if it is necessary to recross the stitch, no disadvantage results from that fact. There must be sufficient space left to admit of an ordinary rubber drainage-tube, or that introduced by Neuber, made of decalcified tubes cut out of bone. You can make them, however, of chicken-bones, for instance, by placing such in dilute muriatic acid until only the soft part remains. In cases of amputation, or wounds where it is important to get primary union, it is desirable to use these decalcified tubes, as, in the course of four or five days, the major portion of them will have been absorbed or dissolved, making it unnecessary to remove the dressing in order to get rid of the tube, which we are obliged to do when the rubber drainage-tube is employed. One objection to the bone tube is that it often becomes absorbed too quickly; * to obviate which Küster, of Berlin, keeps it in absolute alcohol before use. All these preparations you will see on the trays passing around. Having cleansed the wound carefully by squirting the sub-

limate solution through the drainage-tube, you place over it several sponges to firmly compress it, and then take a piece of sublimate gauze, called a handkerchief technically, clap it over the center of the wound, and with it, in lieu of the sponges, make considerable pressure, and over that place half a dozen more pieces, in each instance renewing the pressure over the face of the wound. Then, over the central portion, you may apply either more of these handkerchiefs, or a compress of several thicknesses of sublimate gauze. The gauze should not be in too damp a condition, in order that, when the bandage is applied and firm pressure made, it may retain a degree of elasticity and better secure rest. In Hamburg they resort to a refinement which I do not use, because it is believed to be unnecessary—that is, they place along the line of the sutures a layer of spun glass immersed in the sublimate solution, in order to prevent possible over-action of the antiseptic, and also, because of the capillary action of the fine glass, to cause ready absorption of the blood which may ooze forth during the first twenty-four hours. This refinement has also been abandoned in other portions of Germany. Kümmel, who employs the glass-wool in the manner just alluded to, is also accustomed to using twisted or braided glass to take the place of the drainage-tube. I do not think it possesses any advantage.

To return to the dressing: after securing your handkerchiefs over your wound by a few firm turns of sublimate gauze bandage, you apply your absorbent dressing, consisting of peat, wood-wool, or whatever it may be, done up in bags of suitable size and shape. These bags are from one to two inches thick, and tacked together in a number of places to preserve an even thickness. You may apply three or four smaller ones, adapting them about the wound, and then a larger one over these, and bind all firmly with a crinoline bandage dipped in the antiseptic solution, tucking sublimate cotton under the free edge, where needed. I pass a sample of these different dressings to you that you may appreciate their relative weight and softness. I think you will be struck at once with the fact of the superiority of the jute dressing. We do not use any impermeable substance on the outside of these dressings, as is done by Lister, as a precaution against the volatility of his carbolic acid. That is not necessary in the more permanent dressing; moreover, the pads are very thick, and the discharges do not readily reach the outer surface. There is, moreover, an objection to the impermeable outer covering, in that it not only preserves the moisture of the dressing, with which it is employed, but it also retains the perspiration which takes place in the limb, and thus acts too much as a poultice.

If you find that on the second or third day there is no elevation of temperature, you may consider that your patient is doing well. If you find a slight staining from the discharge coming through the dressing, just douche the parts with the bichloride solution, and apply over the place an additional mass of sublimate cotton or gauze, and let matters go a day or two. In other words, we do not change the dressing until we find some decided signs that things are going wrongly. In fact, Esmarch told me that he did not consider a mere elevation of temperature of itself to in-

* Another is that, when kept in carbolic oil for some time, they become too soft. They can be hardened by placing them in alcohol and glycerin, equal parts, adding to the mixture half a grain of sublimate to the ounce.

dicate the need of change in the dressing. I should not be inclined to accept that view, but should consider an elevation of temperature persisting for twenty-four hours a sufficient reason for removing the dressing and searching for the cause.

On account of the action of the bichloride solution upon metals, we are still in the habit of immersing our instruments in a five-per-cent. solution of carbolic acid.

These remarks would not be complete without some words with regard to attention to cleanliness on the part of the operator and the assistants. You know that a good deal of importance has been and is placed upon cleanliness; it is even considered by some as the principal feature or secret of the antiseptic treatment. It is true that cleanliness will accomplish a great deal. One must candidly admit this, especially after reading about or witnessing the results of the treatment of Mr. Lawson Tait, of Birmingham, who may fairly be called the apostle of cleanliness. Not only does his published account of a hundred ovariectomies, performed with but few antiseptic precautions and in which there were only three deaths, entitle him to this distinction, but also does his recent oral statement that this year nearly 250 abdominal operations of various kinds had been accomplished with much the same diminished mortality. When I visited his wards there were seen seven cases of ovariectomy, three hysterectomies, one of opening into the gall-bladder, and two of exploratory incision, the patients in each of the cases doing well so far as progress toward recovery was concerned, though stitch-abscesses were not infrequently met with, and the incisions themselves were not so neatly healed as those seen in Czerny's wards at Heidelberg, and there were more temperature oscillations of moderate range than were seen elsewhere under antiseptic dressing. His hospital was the cleanest private hospital that I ever was in. He has only one assistant besides the etherizer. His instruments were few and simple, and kept in trays under water. He said he kept them submerged because they were easier to handle, and blood adhered to them less tenaciously. I would say here, in passing, that in Germany I was told that they flooded the floors of the operating-rooms to prevent dust and germs from flying about. I noticed, too, that Mr. Tait took his dozen sponges home with him, and I asked him the next day at his house what he did with them. He replied that either he or his wife personally cleaned them. The sponges were first put for twenty-four hours in running water, afterward, for another twenty-four hours, in a solution consisting of one pound of carbonate of soda to four gallons of water; then cleansed in water, dipped in a five-per-cent. solution of carbolic acid, dried, put in rubber bags, and hung up in the laundry. Though the results attained by rapidity of operation, experience, and great cleanliness may, in the hands of a Tait, justify the diminution of antiseptic precautions in abdominal operations, yet that surgeon himself admits that the experience of men great in other departments of surgery has shown the advantages of antiseptics. To the ordinary surgeon, I believe that asepsis can be easier carried out than continued cleanliness, and will in the end give better results, as it is the essential something added to cleanliness.

I have, however, purposely dwelt upon the care of the sponges, because these are very commonly neglected even by those using antiseptics. It is, unfortunately, thought that carbolic-acid and sublimate solutions can be relied on to kill off every germ that may come in contact with them; unwise risks are therefore taken in many ways, and often sponges, hastily washed out in water and half filled with fibrin of the blood, are replaced in the jars containing the disinfecting solution; and the surgeons themselves, disdaining a clean muslin or linen operating-gown as too butcher-like, insist on retaining what ostensibly are their ordinary coats, but in reality are those worn at many operations, as the splashes of dried blood and pus on them clearly show. In addition, the caution must also be given that, although increased security is furnished to the surgeon by the expert use of antiseptics, yet it is unwarrantable to expect success in every case, or to take injudicious risks on the strength of their employment. Mishaps will continue to occur, often from the surgeon's own fault, and at times in spite of all his care.

In Kiel, Hamburg, and Halle, whence our best surgical statistics are obtained, beside the cleanliness of the operating-room, gowns, and sponges, special care is taken to inculcate this valuable lesson by the public and thorough washing of the hands and nails of the surgeon and his assistants, and also by the scrubbing the skin of the patient with soapsuds (at Kiel an iodoform solution is then painted on), at the site of the intended operation. In the New York Hospital, prior to an operation, not only are the parts washed with soap and water, but also with a mixture of turpentine and alcohol, two ounces to the pint, both as a solvent for greasy matter and likewise as a penetrating antiseptic—turpentine being a germicide even in so weak a solution as one part to seventy-five thousand.

The sponges in our hospital, as in Germany, after proper cleansing, are kept in an antiseptic solution for a week before they are again used. To carry out this plan we have, as can be observed, on a shelf in the amphitheatre, a row of glass jars, seven in number, representing the days of the week. The sponges are, in the first place, prepared in the following manner: After getting rid of the sand by shaking and beating them, they are thoroughly washed in warm—not hot—water, for if hot water is used it deteriorates the quality of the sponge substance and tends to fix the dirt within its meshes. This is particularly so if the sponges have already been used at an operation. The sponge is then placed in a 1-to-1,000 solution of permanganate of potash for twenty-four hours. If the permanganate is found to be losing its beautiful pink color, a little more may be added. At the end of this time the permanganate of potash is washed out with warm water. The sponges are now bleached by immersion in a solution composed of one part of sulphite of sodium to one hundred parts of water, to which has been added a one-fifth part of a watery solution of hydrochloric or oxalic acid of a strength of 8 parts to 100. They are stirred up with a stick for a few minutes, until they whiten; if left longer, they will become friable. Then they are washed out with water again, and left for some time in running water. The sponges are afterward put

into a carbolic-acid solution, 1 to 20, or in a solution of 1 to 1,000 of the bichloride of mercury, and kept there until used. Sponges so prepared, such as we use at this hospital, cost but about one cent and a half each; and at that price they may be thrown away after use at an operation. This is my custom in private practice; at the hospital it is the rule that, if the operation is one upon the rectum, the vagina, or other parts where contamination is likely to take place, the sponges used are afterward destroyed; in amputations and other cleanly operations upon the otherwise healthy subject, the sponges are cleansed for subsequent use. In all abdominal operations new sponges are employed. The sponges that are to be again used are washed thoroughly in running water, and afterward kept for some hours in a weak carbonate-of-soda solution, to dissolve out the fibrin, etc., and then placed in the antiseptic solution as before. Such are the antiseptic dressings used at this hospital in the wounds to which they are applicable; there are certain wounds of the body, as of the mouth, rectum, and elsewhere, in which it is necessary to employ iodoform, which is better adapted to such localities. If you have no other preparation at hand, you can rub the iodoform into the ordinary gauze or simple mosquito-netting, and apply it to the wound. The sticky iodoform gauze is readily made by rubbing iodoform into the ordinary Lister gauze. Iodoform also makes the best application for small lacerated wounds. But remember that more than forty-five grains will give rise to symptoms of poisoning.

Finally, the principle of rest should be carried out thoroughly. No matter how small the operation—as, for instance, the removal of a small tumor from the ankle—the limb is placed in one of the easily cleaned enameled-iron guttered splints of Volkmann's pattern, and held immovable until healing is accomplished or the risk of inflammation has passed away.

Such are the details of the management of wounds and injuries which at the present time seem best to fulfill the conditions demanded by an antiseptic treatment. It is hardly to be expected that the general practitioner will have at his command all the materials here shown. He can, however, have sundry powders of corrosive sublimate, of eight grains each, in his possession, and, when called to a case of injury, can rapidly add a pint of warm water to one of these powders, bathe the wound freely with the solution, dip into it some cheese-cloth, or, what is even better, ordinary absorbent cotton,* then squeeze this out as dry as possible, or, if time allows, partially dry it by exposure to heat, and apply it to the wound. Drainage can always be accomplished with rubber tubing perforated in the ordinary manner, choosing, when possible, the black or red rubber for the purpose. This dressing, duly secured with a bandage dipped in the same solution, will answer for a first application, and permit you to prepare a more elaborate antiseptic appliance if you wish.

Now, does all this carefulness of detail "pay," to use the phrase of the day? The gynecologist who, in 1877,

* This, according to Neuber, takes up fifteen times its weight of water.

told me I would surely kill my patient if I did a contemplated ovariectomy under antiseptics, not only was wrong, for I succeeded, but he himself has recently advocated, with all the force of his great name, the use of antiseptics to the fullest degree in the lying-in chamber; and the most distinguished surgeon of our city, who opposed Listerism when first presented here,* is now one of its most strenuous advocates.

To further express the value of an antiseptic treatment, I shall only allude to a very few facts bearing on this point. It is like discussing a self-evident proposition, but, as there are always some doubters, I beg to take some figures from our midst. Prior to the use of antiseptics the mortality from compound fractures of the arm, forearm, thigh, and leg was over thirty-three per cent. in the Roosevelt and St. Luke's Hospitals; in the old New York Hospital it amounted to sixty per cent.; in the Boston City Hospital, to forty-one per cent. This was under the old treatment of poultices, salves, fracture-boxes, etc. Under the open treatment, with such counter-openings as were necessary, the mortality, in the best hands, dropped to twenty-six per cent. Under antiseptic treatment, I have had 118 major compound fractures, with 8 deaths, a mortality of six per cent. Up to my seventieth case I had not had a single death, but, in endeavoring to treat by this method some of the severer forms of compound fractures from railroad accidents, I lost several patients, and spoiled my record. Lately I have had twelve cases of compound fractures treated with the sublimate dressings, without a single death.

Similar testimony is to be had in connection with amputations. Billroth's statistics are here extremely valuable, giving the experience of a skilled surgeon with various methods of treatment—where, in other words, the personal equation remains the same. This surgeon, from 1860 to 1867, with the open method of treating wounds, had a mortality in amputations of 35.1 per cent. From 1868 to 1875 he continued to use the open treatment, and from 1875 to 1876 he used the wet masses of carbolicized or thymolized lint and jute, with a mortality of 29.5 per cent. From 1877 to 1880, under a strict antiseptic treatment, the mortality went down to 5.7 per cent.†

Volkmann,‡ too, in 261 amputations, had only 14 deaths, which is a five-per-cent. mortality; and 108 of these healed by first intention, a condition which I had only seen once prior to the use of antiseptics. Neuber§ records also 105 capital amputations, with a mortality of 7.6 per cent. As a tribute to the latter surgeon's permanent dressings, it should be stated that in four of his cases only one dressing was used. Still more satisfactory is the employment of the permanent or peat dressing in 49 knee-joint resections, in 36 of which the dressing remained unchanged from the time of the operation until the parts were healed. He attributes his greater success in getting union in resections

* "On the Antiseptic Treatment of Wounds and its Results," by R. F. Weir, M.D., "New York Medical Journal," December, 1877.

† "Die Amputationen an Professor Billroth's Klinik, 1877-'80," Wölfler, 1882.

‡ "Die Amputationen unter dem Einflusse der antiseptischen Behandlung," Oberst, 1882.

§ "Eine neue Amputationsmethode," G. Neuber, 1868.

than in amputations to the imperfect apposition of the muscular structures in the latter operation; and, in amputations, he therefore recommends the separate suturing of the muscles with catgut, under which procedure he got primary union in thirteen out of fourteen cases in which he tried it.

In my own practice, I find notes of thirty-five amputations without a single death, viz.: 1 hip-joint, 7 knee-joint, 7 thigh, 9 leg, 7 arm, and 2 forearm amputations. Two deaths following amputation for compound fractures have already been counted under those injuries. Should such be placed also in the list of amputations, the result would be 37 cases with 2 deaths, a mortality of 5.4 per cent.

With such results, I feel that I shall be pardoned for repeating words used on a former occasion, but now employed with a conviction deepened by increased experience: that "the saving of life which is thus indicated, occurring as it now does or ought to do over the whole world, should entitle the name of Joseph Lister to outrank in medicine all of his century, not excepting the discoverer of anæsthesia."

LATERAL URETHRAL STRICTURE; ITS DIAGNOSIS AND TREATMENT.

By JOHN A. WYETH, M.D.,

PROFESSOR OF SURGERY IN THE NEW YORK POLYTECHNIC; SURGEON TO MT. SINAI AND ST. ELIZABETH HOSPITALS.

Lateral urethral stricture, that is, a cicatricial contraction following an inflammatory process on any portion of the urethral circumference and not involving the whole, is a condition admitted by surgeons almost without exception.

Though writers lay great stress upon the fact that the urethra normally is not a cylinder, but a collapsed tube, the walls of which are in contact, all of which is true when it is at perfect rest, yet, when it is serving its function as an outlet to the urine or the prostatic-seminal fluid, it is a cylinder and nothing else; nor is it less so when, in the hands of the surgeon, it is explored by instruments of precision and treatment.

When it is in use, it is a cylinder; when it becomes of interest to the surgeon, it is a cylinder; practically, it is always a tube, and not one which is collapsed. A lateral contraction may occur in this tube—a cicatrix on one side or segment of its circle-wall—just as at the mouth, where the cicatrization and contraction are lateral after a burn on one side of the face.

I propose to show that lateral strictures do exist, that they may be recognized and located, and that the cicatrix itself may be divided, not cutting blindly into the floor or roof of the urethra, as advised, but dividing the constriction proper, and restoring the urethra more nearly to its normal condition.

I do not hold that lateral strictures are the rule. In my own experience they are exceptional; yet, when they do exist, the more exact we are in the application of our science, the more credit we achieve for surgery in the better results for our patients.

Gouley,* a most experienced and careful observer, in describing the forms of stricture, writes: "A linear stricture

is due to the contraction of a narrow cicatricial band, which gives rise, by a duplication of the mucous membrane, to a thin diaphragmatic septum, with a central, often with an eccentric, orifice, and occasionally not involving the whole caliber of the canal, but forming a valvular crescentic fold, etc."

Van Buren and Keyes* define a stricture of the urethra, after Sir Charles Bell, as a loss of dilatability.

They say that all strictures may be ranged under three heads: linear, annular, and tortuous. A linear stricture is like what would be caused if a thread were tied around the canal; or it may consist of a thin membranous diaphragm, with its orifice in the center or on one side; or be a crescentic fold or free band, encircling the urethra entirely or partially in a transverse or oblique direction.

Sir Henry Thompson † writes that "organic stricture is a deposit of lymph round the canal of the urethra or some point which, not allowing the canal to open to the stream, narrows the current to that extent. . . . This lymph forms fibrous bands, which subsequently become somewhat rigid, while they more or less encircle the passage," etc.

Bumstead and Taylor,‡ in describing the form of stricture, declare that this necessarily varies with the amount and situation of the fibrous deposit which produces it. This may consist of a few fibers which encircle the whole or a part of the urethral circumference, etc.

From Agnew* I quote as follows: "In the first, or membranous variety, the band may be a single crescentic-shaped membranous fold, limited to one side of the canal," etc.

Gross || says it (the stricture) may embrace the entire circumference of the tube, or only a part of it, etc.

Hamilton ^ concludes, also, that "in form they are exceedingly varied, in certain cases being circular, surrounding the entire canal; in others, they are limited to one side only," etc.

Holmes ¶ says it occasionally happens that a fold of the mucous membrane obstructs the passage at one of its sides, only forming a crescentic septum, and so obstructing a segment of the caliber of the canal, etc. (Thompson.)

Otis † writes: "Persistent irritation of living tissue result in the aggregation of germinal cells and the development of connective-tissue corpuscles at the point of irritation. These, becoming organized in the submucous cellular tissue and the adjacent muscular structure of the corpus spongiosum, result in a more or less resilient band or bands, always completely surrounding the urethra," etc.

Of the famous authorities just quoted as to the existence of lateral strictures of the urethra, Professor Otis stands alone in his denial of such lesion, asserting that a "true stricture always, and of necessity, completely surrounds the urethra. That it may have its origin, its commencement, at a single point in the circumference, is quite evident; but, as

* "Genito-Urinary Diseases," p. 92, D. Appleton & Co., 1875.

† "The Urinary Organs," P. Blakiston, Son & Co., 1882.

‡ "Venereal Diseases," Henry C. Lea's Son & Co., 1883.

"Surgery," vol. ii, J. B. Lippincott & Co., 1831.

^ "Urinary Organs," Blanchard & Lea, 1855.

Δ "Principles and Practice of Surgery," William Wood & Co., 1872.

¶ "Surgery," vol. iv, William Wood & Co., 1871.

† "Genito-Urinary Diseases," Birmingham & Co., 1883.

* "Diseases of the Urinary Organs," William Wood & Co., 1873.

soon as the caliber of the urethra becomes lessened at any point, the resistance to the flow of urine which it necessarily occasions and the resulting interference with the harmonious muscular action produces an irritation in its whole circumference at the point of contraction, resulting, sooner or later, in an aggregation of fibro-plastic material not confined to a single point in its circumference, but around the entire canal."

Holding Dr. Otis in high esteem personally, and with great respect for the contributions which his industry and ingenuity have made to the literature and armamentarium of genito-urinary surgery, I can not accept his sweeping denial of the existence of lateral stricture of the urethra. The weight of authority is against him.

Even if every stricture were linear and lunar, all writers agree that the opening is rarely in the center. I hold, and the point I am making the endeavor to establish is this, that, when internal urethrotomy shall have been determined upon, the surgeon should, if possible, also determine the exact and minute character of the stricture; and if it be lateral, instead of cutting on the floor or roof of the canal, he should make the incision or incisions through the thickest part of the cicatricial diaphragm, no matter in which direction it requires the knife to be turned.

The danger of severe hemorrhage by cutting into the corpus spongiosum is not great, and, when proper care and skill are employed, it may be excluded. On strict anatomical grounds, as has been demonstrated by Professor Robert F. Weir, the roof of the urethra is the safer plane of incision, and in annular or long and tortuous strictures surrounding the entire urethra, where the cut must be deep, the knife should be turned to this plane.

As to the proper line of incision in internal urethrotomy, the difference of opinions is only second to the different results at which urethrologists have arrived in determining the part of the urethra which is the most frequent seat of stricture. Gouley prefers a clean longitudinal incision in the middle line of the urethral floor; sometimes a second one is done in the upper wall. Otis cuts on the floor from the external meatus to the end of the fossa navicularis, and on the roof from thence to the bulb.

Thompson and Agnew prefer the floor; Bumstead and Taylor, the upper median line; Van Buren and Keyes, both floor and roof; while Gross cuts the stricture on two, three, or more points of its circumference. Maisonneuve occasionally practiced one or more lateral incisions.

Personally, when the cutting operation must be done, I prefer to make the incision on the floor through the fossa, on the roof from the fossa to the bulb, and to treat all strictures of the membranous portion by continuous or gradual dilatation when this is possible, or by external section if patient efforts at dilatation have failed.

When, however, in the rarer cases, a lateral stricture can be made out, I cut the cicatricial band, no matter in which direction the plane of incision is indicated.

& Co., is pointed anteriorly, and shouldered on one side. On the tip of the handle is a little knob which corresponds to the side on which the shoulder projects. The opposite surface is smooth and continuous with the wire which forms the stem. The sizes correspond to the *bougies à boule* made on the American scale. It differs very slightly from the "half-olive" bougie of Leroy d'Etiolles (1845) figured in Gouley's work. The indicator on the handle-end of the stem renders its use more precise, while my instrument is only a flattened segment of the "half olive." To my knowledge, no other American writer mentions this instrument. When the indicator is insinuated through a lateral stricture, if it pass in and out with about the same degree of resistance, it is evident that the stricture band is not located on that arc of the urethral circumference over which the shoulder is passing. If, however, the instrument be entered again on the same plane, and then turned with the shoulder to the opposite side and withdrawn slowly, if it hang or catch, it is evident that upon this portion of the urethral circumference the contraction has occurred and the stricture is located. Repeating this manœuvre to confirm the diagnosis, the usual measurements are taken, and, with an Otis's or Banks's urethrotome, one or more cuts are made until resistance ceases and the introduction of the sound has been accomplished. I have performed this operation several times with satisfactory results. It is not one which will be often necessitated in the experience of the general practitioner, since the condition which might demand it will only occasionally exist; yet I claim that it is, both in the diagnosis and as an operative procedure, an addition to the exactness of our science.

THE RELATIONS OF A PHYSICIAN TO THE COMMONWEALTH.*

By E. C. HARWOOD, M. D.

(Continued from page 8.)

Medical Corporations.

The Medical Society of the State of New York and each of the county medical societies of this State are corporations created by the act passed April 10, 1813. The Legislature reserved the right to alter, modify, or repeal the provisions of this act at pleasure.

These corporations have, in general, the following rights:

1. To enjoy a given name.
2. To have and use a common seal.
3. To prescribe rules for the admission and expulsion of members and the election of officers.
4. To sue and be sued.
5. To purchase, hold, and sell property.
6. To impose fines, dues, and penalties on their members.

When a corporation is duly created, the law tacitly annexes to it the power to make by-laws or private statutes for its government and support, but the statute creating these corporations conferred upon them certain general

* Read before the Northwestern Medical and Surgical Society at its thirteenth annual meeting, December 19, 1883.



For purposes of diagnosis I use the lateral indicator represented in the figure. This instrument, made by Reynders

powers, such as to make by-laws and regulations for their government.

This power is conferred in general terms, and must be construed as an authority given for the purpose of enabling the corporation to accomplish the objects of its creation, and the power in its exercise is to be limited to such objects or purposes.

A by-law must not be at variance with the general law of the land. It must be reasonable, and adapted to the purposes of the corporation.

The by-laws of the medical societies must not only accord with the laws of the State, but must be adapted to the purposes of the corporations, as declared by the Legislature—that is, to contribute to the diffusion of true science, and particularly the knowledge of the healing art. These corporations can not make any regulation which is unreasonable, or opposed to public policy, or contrary to law. They may at their annual meeting make by-laws for the admission and expulsion of members, for the fees or dues to be paid by members, for an initiation or admission fee, to levy contributions upon members, for the standard and requisites for membership, but they can not prescribe a tariff of fees for medical services to be performed by their members, nor fix a minimum salary to be received by any member who should be appointed to a public office, because such a regulation is unreasonably restraining and oppressive, interferes with the private rights of members, and conflicts with the law and its policy in relation to contracts and trade.

The skill of a professional man is his capital in trade, and he has the undoubted right to employ it for a compensation satisfactory to himself, and by this means obtain a livelihood.

These societies must sue and be sued in the corporate names. They may contract such debts as are allowed by the statute creating them and by their by-laws, and, if judgment be obtained against them, execution may issue and their property be taken thereunder. They possess all the usual powers and privileges of ordinary corporations, and are liable in the same manner as general corporations.

Every physician must become a member of the medical society of the county in which he practices.

These societies are not simply voluntary associations of gentlemen for social purposes or mutual improvement under rules and regulations as adopted by themselves, but they are organized under the statute, and such organization is a corporation. Their powers are derived from the statutes, and their members have certain well-defined and valuable rights. Such rights are franchise, and the law will protect each member in the enjoyment thereof until they shall have been legally forfeited.

Every physician or surgeon, residing in the county in which the medical society to which he applies is situated, of temperate habits, good moral character, and legally authorized to practice physic or surgery in this State, is entitled to membership in such society.

Any physician or surgeon possessing these qualifications can not be refused admission for any cause unless it shall appear to be morally certain that, if he were admitted, the

society would have the immediate right of expulsion. This right must, however, be morally certain before membership can be refused.

As soon as a person becomes a member all the by-laws and regulations of the society are binding upon him, and any refraction of them is cause for expulsion.

It seems, also, that the code of ethics adopted by the various societies as part of their by-laws is binding on members; but the non-compliance with the requirements of the by-laws of a society, and with those of the code of ethics, is no ground for exclusion from a society of one not a member.

These societies have the right to expel a member, by a two-thirds vote of all the members present, for malpractice, gross ignorance, and immoral habits, and for such causes as may be provided by their by-laws. Expulsion is disfranchisement, and deprives the person expelled of all the rights and privileges of the society.

Any physician or surgeon refused admission or expelled from a county society may appeal to the Medical Society of the State for redress, or he may have the matter reviewed by the courts of this State.

Coroners' Inquests.

The office of coroner dates back to the Saxon period of English history. The duties and powers are both judicial and ministerial, but principally the former.

It has always been his peculiar duty to inquire into the causes of violent and sudden death, by a jury of proper persons, upon view of the dead body.

The ministerial office of the coroner is only as the sheriff's substitute in executing process.

The office in this country has lost most of the importance and dignity belonging to it in England, where its incumbent is one of the principal Crown officers.

According to the old English law in cases of persons dying, or found dead, the body must not be moved or touched before the arrival of the coroner, who shall be summoned instantly, and proceed without delay with the inquisition, which was to be held in the direct presence of the corpse till finished.

The practice in this country is considerably simplified, since it is only required that the proceedings of the coroner and a jury (six or more) shall be *super visum corporis*, and that a body, or a portion thereof, shall be produced.

Without the latter condition the coroner can not take a step toward investigating a crime. After a coroner and a jury have viewed the body, the inquest may go on at once where the corpse lies, or in a more convenient location, and it may be adjourned to any suitable time.

Unless the case is an unusual one, or the position and surroundings of the dead person tend to throw light on the manner of death, there is no objection to washing and laying out the body, and making the ordinary preliminary arrangements for burial. The classes of cases referred to the coroner are:

1. Deaths by criminal violence.
2. Deaths from casualties.
3. Deaths occurring suddenly in persons supposed to be healthy.

4. Deaths in which no physician had attended the deceased.

5. All suspicious or unusual deaths.

6. Deaths in prison.

7. Ante-mortem examination.

The last class is held upon persons who have been dangerously wounded. Should they be in a hopeless condition, their dying declarations are included in the ante-mortem inquisition.

It is important that physicians should be aware of the necessity of such declaration, and of what it should consist. For, to be effective and admitted as evidence in the courts, it must be made when the individual examined is *fully satisfied that he is about to die*, and that his dissolution is very near. Any hope of recovery, however slight, renders such a declaration inadmissible in evidence, and the question turns rather upon the state of mind at the time of making the declaration than upon the interval between it and death. The declaration is only admissible in evidence in a charge of homicide, and where the death of the deceased is the subject of the charge, and the circumstances of the death the subject of the declaration. Such declaration must be made before the coroner in the presence of a jury or other witnesses, and without the administration of an oath. The following is the amended law, passed in 1871, regulating coroner's inquests:

SECTION 1. Hereafter, when, in the city and county of New York, any person shall die from criminal violence or by a casualty, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in any suspicious or unusual manner, the coroner shall subpoena a properly qualified physician, who shall view the body of such deceased person externally, or make an autopsy thereon, as may be required. The testimony of such physician and that of any other witnesses shall constitute an inquest.

Sec. 2. Should the coroner deem it necessary, he may call a jury to assist him in his investigation; or should any citizen demand that a jury be called, he shall proceed as directed by part four, title seven, article one of the Revised Statutes.

Sec. 3. It shall be the duty of any citizen, who may become aware of the death of a person who shall have died in the manner stated in section one of this act, to report such death forthwith to one of the coroners or to any police officer, and such police officer shall, without delay, notify the coroner of such death; and any person who shall willfully neglect or refuse to report such death to the coroner shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

Sec. 4. Any person, except the coroner, who shall willfully touch, remove, or disturb the clothing, or any article upon or near such body without an order from the coroner, shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

Sec. 5. Any citizen not over seventy years of age, and being at the time a resident of the county, may be summoned to serve as a juror upon a coroner's inquest; and any person who shall willfully neglect or refuse to serve as such juror when duly summoned shall, upon conviction, be adjudged guilty of a mis-

demeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

The fees allowed a physician for making external examinations are three dollars; for making autopsy, ten dollars, such sums to be a county charge.

Any citizen under seventy years of age may be summoned to serve as a juror, and physicians, if summoned, though it is not usual to require them, must serve.

The summons, or subpoena, to a physician to attend and make an examination and give evidence must be served personally, and no fees are provided, it being in the nature of, and subject to, the same rules as criminal cases. This subpoena may issue to any regular physician in actual practice in or near the place where the death happened.

The cases in which inquests must be held are only those mentioned in the first section of the foregoing act.

The words "suspicious or unusual manner" are very indefinite, and leave many cases open to the discretion of the coroner, who has the authority to order an inquest in any case when death has resulted out of the ordinary course.

By an act passed in 1874, a coroner was empowered, when he deemed it necessary, to employ not more than two competent surgeons to make post-mortem examinations and dissections, and to testify to the same, the compensation therefor to be a county charge.

A medical man should remember that, in giving evidence at an inquest, the coroner is in all cases likely to commit the accused person, and that his evidence may involve the accused in a charge of manslaughter or murder, or may cause him to be imprisoned for months previous to trial.

All opinions, therefore, should be well weighed, and only given after a careful inspection of the body. Such inspection is absolutely necessary, and should be made with the greatest care; and after it the physician will be called upon for his opinion, which, if not well considered and formed upon sufficient evidence or data, may involve him in an unpleasant responsibility.

The physician is entitled not only to a careful inspection of the body, but also to any information in relation to the habits of the deceased, and the circumstances under which death resulted. Reports are frequently made, and these, with the deposition of the physician, are filed, and counsel for the people and for the accused have access thereto.

If the accused is indicted, the physician may be called upon to testify upon the trial, and his evidence as given upon the trial will be compared, word for word, with the reports; and if there is any material difference between them, it may furnish materials for cross-examination to the counsel for the prisoner. These reports, therefore, should be most carefully drawn, and contain only such facts and circumstances as are connected with the subject of inquiry, and which had actually fallen under the observation of the physician.

All exaggerated language and the too free use of technical terms should be avoided. The facts should be stated with particularity, and, if any comments be necessary, they

should be separately stated, and care should be taken to avoid anything like a dissertation upon the subject.

All hearsay statements must be excluded.

In a report of an analysis of a case of suspected poisoning it is not necessary that all the details of the analysis should be set forth at length. A general statement of the results, the effect of certain tests and processes which may have been used, will be sufficient.

Malpractice.

Every medical practitioner who, by a culpable want of attention and care, or by the absence of a competent degree of skill and knowledge, causes injury to a patient, is liable to a civil action for damages even where the patient neither employed him nor was to pay him, unless such injury be the immediate result of intervening negligence on the part of the patient himself, or unless such patient has, by his own carelessness, directly conducted to such injury.

Every person who publicly announces himself to be a physician is presumed to have the ordinary qualifications for the practice of medicine; and, though he does not undertake to perform a cure nor to use the highest possible degree of skill, he undertakes to employ a fair, reasonable, and competent degree of skill in the care and treatment of the patient.

The law implies an undertaking on the part of every medical practitioner to use an ordinary degree of care and skill in his practice, and will hold him responsible for gross negligence or unskillfulness.

The negligence or ignorance must be *gross*, and by these terms is meant carelessness, want of due diligence, harsh and unsentimental treatment, unwarrantable experiments, and the like.

The administering of improper medicines, or over-doses of medicines of notoriously dangerous character, or pursuing a course of treatment which has been held by the profession at large to be improper, are all actionable where ordinary care and skill have not been used. But, if the patient, by his own acts, has directly contributed to the results, no action will lie. This is called contributory negligence, and the general doctrine is that, although there may have been negligence on the part of the patient, yet, unless he might by the exercise of ordinary care have avoided the consequences of the physician's negligence, he is entitled to recover; but, if by ordinary care he might have avoided them, he is the author of his own wrong, and can not recover. Ordinary care and skill are the usual or necessary care in attending, or the usual mode of treatment of the particular case or disease.

In case of malpractice, the principal evidence is necessarily that of experts, and, from the variety of schools of medicine and modes of treatment, it is frequently the case that as many witnesses of respectability and reputation in the community are produced on the part of the plaintiff as on that of the defendant. The parties to the suit are examined orally, and their statements of the treatment pursued and the result of the treatment are generally directly opposite.

In cases of injury to children, oral examination is gen-

erally useless, and the physician labors under great disadvantages. In such cases it is easy to perceive that a personal examination of the alleged injury might set at rest all doubt on the question, and relieve the physician of the charge of malpractice. But until recently no personal examination was permitted, it being considered a personal trespass. There is, however, a case where an action was brought for an alleged injury to a child seven years of age, when the Court, upon an application of the defendant, allowed a personal examination, and appointed several medical men as a commission for such purpose. This case, however, was not appealed, and has not been passed upon by the higher courts, and is the only one on record in which such an examination was allowed.

A medical man who is guilty of gross negligence, or evinces a gross want of knowledge of his profession, is criminally responsible for the consequences, but is not liable to a criminal investigation for every slip.

It must be something substantial. The distinction between actionable and criminal negligence can not be defined except so far as to say that to constitute the latter there must be such a degree of complete negligence as the law means by the word "felonious."

Whenever death ensues as the alleged consequence of malpractice, it then becomes necessary to inquire into the conduct of the physician, so as to determine how far his want of skill or negligence has conspired to produce it.

The question of intention enters largely into cases of this character, and is to be deduced from the accompanying facts and circumstances.

The remedies prescribed and the treatment pursued are to be investigated, and, as every physician is presumed to know the consequences of the particular medicines administered and the treatment pursued, as falling within the line of his calling and forming part of the skill belonging to it, the intention of his act is therefrom fairly to be deduced. Hence, if a physician administers poison in poisonous doses, or pursues a course of treatment which the experience of the profession has condemned as unsafe, he can not escape the presumption of wantonly trifling with life or health.

Confidential Communications.

Formerly communications between attorney and client were alone considered privileged. In this State, however, contrary to the general rule, this privilege has been extended to the profession of medicine, and, by II. Revised Statutes, p. 406, information disclosed to a physician while attending a patient in his professional capacity, which information was necessary to enable the physician to prescribe for his patient, is declared to be a confidential communication which the physician is not allowed to divulge without the express consent of the patient, for this is the privilege of the patient, not of the physician.

The theory of the law is that the welfare of society must be assured, and, as in the case of attorney and client, it is desired to protect the client and make the pursuit of justice more certain and easier of attainment. So, in regard to the profession of medicine, it refrains from placing any obstacle in the way of a full and frank confidence between

physician and patient, and therefore makes the physician incompetent to testify regarding all information of a confidential character which he has acquired in the practice of his profession. Thus, if a physician were called upon to prescribe for a patient, and the patient disclosed the fact of some organic defect, the physician could not testify regarding such defect. The same rule applies to cases where the physician, acting in his professional capacity, had discovered the defect without any declaration of the patient, as in the case of a family physician who had been accustomed to attend the patient from childhood, and had, through this means, become perfectly acquainted with his constitution and habits. The privilege, however, does not extend to extraneous or impertinent communications, nor to information imparted to a physician in the character of a friend and not as a physician.

Where communications come under the following heads they are not deemed confidential or privileged:

1. When the communication was made before the physician was employed as such.
2. After the physician's employment has ceased.
3. When the physician was consulted because he was a physician, yet he refused to act as such, and was therefore only applied to as a friend.
4. Where a fact merely took place in the presence of a physician.
5. When the matter communicated was not in its nature private, and could in no sense be termed the subject of a confidential communication.

A physician, when called upon to testify as to anything communicated to him in his professional capacity, must plead his privilege.

The privilege is that of the patient, and not of the physician, and can only be waived by the express consent of the patient.

The privilege does not survive the decease of the patient, as after his death there is no person entitled to assert it. Hence it has been held that the statute has no application where a physician is called as a witness to testify touching the capacity of his patient to make a will upon an application for probate of the will.

Actions for Defamation.

Actions of this character come under the terms of libel and slander. Libel, or written defamation, applies to such words as are written, and the law regards such an offense as more heinous than that of slander, which is oral defamation, and consists in words spoken. Such words are actionable *per se*, or by the effect and impression created by them.

Words actionable *per se* are such as are sufficient of themselves to cause a man injury in his business or profession, or to tend to bring disgrace upon him and cause him to be shunned and avoided by others.

Thus, if a physician were to announce generally that a certain person was affected with a contagious disease, an action would lie against him, because it would exclude the person from intercourse with other men.

If a physician were to declare that a person's mind was in an unsound condition, and was giving way, an action

would lie, provided it could be shown that damages had resulted to the person on account of such defamation. Such damage is called special damage, and must be proved.

All words imputing misconduct, or gross ignorance, or incapacity to professional men in the discharge of their professional duties, are actionable *per se*, without proof of any special damage. Such as words imputing to a practicing physician that he is a quack, or a mountebank, or that he has killed a patient through ignorance of the first principles of his profession; or words imputing to a surgeon or accoucheur the want of proper qualifications for his profession or business, or the want of skill, or of any professional requisite; or that his character is so bad among professional men that they will not meet him in consultation; or that he had seduced or committed adultery with one of his patients. In these cases it is not necessary that the loss or damage should have actually arisen at the time. In all other cases the damages must be proved, and must have actually occurred, and be the natural and direct consequence of the wrongful act, and not too remote.

Partners may sue jointly and recover damages for injury sustained in their joint business.

An action for libel and slander must be brought within two years after the cause of action has arisen.

Experts.

In general—as a principle—the law only permits witnesses to testify regarding facts coming within their own personal knowledge; yet there are exceptional cases in which it is found expedient to admit as evidence the opinion of the witness, and not what he actually saw or heard, but what he believes to be true, judging from past experience and information.

Under this head is classed the testimony of medical men who, in the language of the law, are known as “experts”—that is, men instructed by experience, and professionally acquainted with the subject-matter of the discussion.

In order that such testimony may be introduced, it must appear that the fact to be proved requires more than the ordinary knowledge which the average man possesses—that is, the fact must be of such a nature that an inexperienced person would be liable to error; and that, in order to form a correct judgment, some preparation and study must have been necessary.

Medical experts are generally entire strangers to the party regarding whom the controversy is instituted, and are only permitted to testify as to the facts already proved by other testimony. They can only say what, in their judgment, would be the result of certain facts submitted to their consideration, and can not give an opinion as to the general merits of the case, nor as to questions with which a jury may be supposed to be equally well acquainted.

A hypothetical case, introducing the circumstances of the particular controversy, is generally put, and they are asked what, in their judgment, would be the condition of a person under such circumstances, or what would be the effect of such treatment. All that is required to entitle one to give evidence as a medical expert is that he has been

educated as a physician, and has had some experience in his profession.

One may testify as an expert although he is not engaged in the practice of his profession.

The Court at the trial decides whether a witness offered as an expert has the necessary qualifications, and, if his testimony is admitted, it is for the jury or tribunal to determine the weight due to such testimony in each particular instance.

In almost all cases where a medical expert is called in he is required to pass an opinion upon the professional skill or practice of another professional man. In such cases it is the duty of a witness, in answering questions put to him by counsel, to state his opinion, and the grounds upon which it is based, clearly and distinctly; but he is not bound to be forward in pointing out and suggesting defects, and should not endeavor to lower another practitioner in the opinion of the public. He should conceal nothing which is relevant to the elucidation of the case at issue, but he should volunteer nothing.

Care should be taken in giving testimony to be prepared to answer any question that may be put in regard to anatomy, or which has any bearing on or connection with the case.

Great latitude is allowed counsel on cross-examination, and an expert should be prepared to answer all questions, even though they may seem impertinent, in regard to the length of time he has studied and practiced medicine, his habits, associations, and particular practice and advantages.

These questions are generally asked, and go to show the weight due to the testimony given by the expert.

A medical man may be called as an expert in any case requiring medical testimony, and, if, upon being personally served with subpoena, his fees in a civil action are paid, he is bound to obey the subpoena.

The fees in civil cases on services of subpoena are fifty cents, and, if out of the city or town, mileage is allowed.

In criminal cases no fees need be paid, though, if the distance is great, the physician is entitled to a small sum for mileage.

There is no provision for the payment of medical men when called upon to testify as experts. Some compensation should be provided by statute, as it is a great hardship to compel a physician in active practice to leave his business and attend at court, sometimes for days, to his great damage pecuniarily.

If, however, a medical man is employed to examine a case as an expert, and to give his testimony from such examination, if no special agreement is made as to the amount, he may sue for and recover such an amount as his services may be reasonably worth, and this may be done even if the physician has not been called upon to give his evidence after making such an examination. In such cases it is always best to have the amount of compensation agreed upon by the parties, as it may be very difficult to prove that the examination made by the physicians was worth the amount charged.

(To be concluded.)

SCARLET FEVER AND MEASLES

IN DOGS AND CATS.

By JOHN C. PETERS, M. D.,

NEW YORK.

COPELAND, Ziemssen, and many other writers allude to scarlet fever in dogs, but in such a perfunctory way that nobody pays much attention to it. Some months ago I attended a case of scarlet fever in a young lady who had a pet pug dog. It so happened that I had seen this dog several times when well; finally it sickened, and seemed to have what is called "distemper," to which all young dogs are subject, like children to scarlet fever and measles. Of course, I paid little or no attention to it, but recollect that it appeared to have a feverish cold, with sore eyes and throat, refused its food, and rapidly fell away in condition. It was sent to a dog doctor, and soon after its young mistress had a very decided outbreak of scarlet fever, about which there could not be the slightest doubt. Her eyes were affected more than is usual in scarlet fever, and the mother repeatedly called my attention to the similarity of some of the symptoms of the dog-distemper to those of her daughter. I warded off these gentle attempts to establish a connection between the disorder of the dog and that of its young mistress. Many months after, when I became interested in the possible occurrence of scarlet fever in horses, the mother again stated her belief, which she had never abandoned, that the dog had had the same disease as her daughter, and that the canine disorder, as I well knew, had the precedence in point of time. Subsequently I learned that the dog had been taken along several times by a waiter man when inquiries were made about another young lady sick with scarlet fever.

This case, standing alone, would, of course, form a very slender basis for anything else than to suggest that sick dogs should be examined more carefully by doctors in the future. Soon after I heard that Dr. Alexander Hadden knew something about scarlet fever in cats, and, after several conversations with him, persuaded him to write out his opinions, and, on December 5th ult., received the following letter:

"DEAR DOCTOR: About fifteen years ago my attention was called to scarlatina in animals by an article published by the well-known Dr. Snow, of London, in a medical journal which I have lost, and the name of which I have forgotten. The purport of his paper was that cats were often the carriers of scarlet fever to families; that they were subject to this disease, and often communicated it to their kind and also to human beings. He also stated that they died of this malady, and then presented the common post-mortem appearances of unmistakable scarlet fever, especially in the skin and kidneys. His statements were so positive that I bore them in mind, and, when other well-known sources of the contagion were not present in the cases I met with in practice, I inquired about the condition of these common house pets. The first cases which fastened my attention to this point still more were three children in one family all attacked with scarlet fever about the same time. They had not been exposed to scarlet fever in any known way, for they had not been out of the house for several weeks, as they were snow-bound in the country, and the weather was very cold.

THE RHODE ISLAND HOSPITAL.—Dr. Godding and Dr. Mann, of Providence, have lately been appointed to positions on the staff.

There was no scarlet fever in the neighborhood, and few or no visitors had come to the house. I asked if there were any sick cats in the family, and was told that the house cat had been ailing for a week with sore throat and eyes. The animal was sought for but could not be found, although it had been seen lying beside the stove in the morning. It never returned, and therefore I was left with incomplete evidence. The next case which presented a like suspicious history was in a boy aged ten years, who, about four days before I was called, had been caring for a sick kitten which he had found in the street, and which died on the following day. The lad had not been exposed to the contagion from any human being, as far as could be ascertained; there was none in the neighborhood where he lived. His attack was well marked and very virulent, so that he died on the third day. In the following week his little sister was taken with the same disease, scarlet fever, but had it less severely, and recovered. In this case, also, I was deprived of the opportunity of obtaining positive evidence for or against the suspected origin of the contagion.

"On several occasions I tried to produce scarlet fever in kittens by exposing them to the disease, but obtained no absolutely satisfactory results. The plan I pursued was to place kittens about six weeks old in bed with children suffering with scarlet fever, and allow them to remain there parts of several days. Some of these animals became sick with catarrhal affections of the eyes and throat, but none exhibited the rash upon the skin, or characteristic glandular inflammation of the neck, or marked renal conditions."

I also persuaded Dr. Erskine S. Bates to write out his experience, as follows:

"DEAR DOCTOR: In looking over my case-book, I find the following notes, which may be of interest to you and others. They are necessarily meager, as the subject did not at that time possess the interest it will now: On March 6, 1877, I was called to attend Maggie W., aged seven. Her mother stated that the child had been very sick all night, and she was afraid she had caught some disease from a strange kitten which she had found in the hall some days previous. The kitten was sick when found, and the child had been nursing it ever since. I did not attach much importance to the mother's fears, but found that my little patient had scarlatina anginosa, and so informed the mother. The next day the mother again referred to the case of the sick kitten, and told me that the family cat was now also sick, very much like the kitten, and asked me to examine both animals. I did so very skeptically, and found both cats with high fever, scarlatinous sore throats in different stages, and some discharge from the nose; they were both very sick. As the child was quite ill, little attention was given to the felines beyond watching them casually from day to day. The family cat died on the sixth day; the kitten recovered, as did the little girl. Other cases of scarlet fever subsequently developed in the same house, but I am not sure whether any other of the felidæ contracted the disease.

"Two years after, I was called to see a young man, aged twenty-eight, who had recently married and set up housekeeping in a tenement building on Avenue A. His family consisted of his wife and a pet terrier dog. The house had a bad reputation on the score of healthfulness; family after family would move in, contract some form of scarlatina, lose one or more children, and then move out. The newly made family man had been domiciled there scarcely a week when he was attacked with scarlatina maligna, and died in forty-eight hours. The pet dog persisted in lying on the bed, as near the head of his master as he could get, all through his owner's illness; and, on the same day that his master died, was taken with convulsions, sore

throat, rapid swelling of the glands of the neck, high fever, suppression of urine, etc., death closing the scene thirty-six hours after the convulsions which ushered in the attack. The train of symptoms manifested by the animal was so similar to that of his master that the mourning friends commented on the matter. I had no doubt then, as I have none now, that the dog died of scarlatina maligna. Subsequently the house was thoroughly disinfected and renovated, and I am not aware that any peculiar fatality has since attended its occupants."

Even if the animals are not sick, they may convey the poison in their fur, as was suggested by Dr. Snow, whose opinions as the originator of the whole doctrine of water-contamination in the conveyance of cholera, typhoid fever, and other diseases are entitled to the highest respect. Dr. Janeway has reported a case in which diphtheria was conveyed from New York to Florida in the fur of a toy rabbit. Dr. Williams, President of the Royal College of Veterinary Surgeons, and Principal and Professor of Veterinary Medicine at the Veterinary College, Edinburgh, says, p. 253 of his "Principles and Practice of Veterinary Medicine," republished by William Wood & Co.: "I can compare dog-distemper to no human disease except measles, and the points of analogy are very great. In both diseases catarrhal symptoms are manifested; they are infectious; they generally occur but once in a life-time; they chiefly affect the young; in almost all cases of distemper there is some *cutaneous eruption or rash* and desquamation of the cuticle: catarrhal ophthalmia, bronchial and pulmonary inflammation, and dysentery are complications of both diseases," etc.

Book Notices.

Leçons sur les maladies mentales. Par B. BALL, Professeur à la Faculté de Médecine de Paris. Paris: Asselin et cie, 1880-1883. Pp. x-884.

THIS work comprises a series of lectures delivered by Dr. Ball at the Faculté de Médecine in 1875 and 1876. The author's intentions are to place before the profession the most indispensable ideas of mental pathology in a comprehensive and concise form.

Dr. Ball's great experience has enabled him to carry out his intentions in a very successful manner, and to produce a work not only of great merit, but one which proves the author to be one of the most advanced alienists of the day. The opening chapters contain the history of mental physiology from primitive periods to the present date, advance the theories of Pinel and Esquirol, and introduce a rather elementary form of classification. Further on, a tabulated classification is presented which, while it completely covers the subject, is singularly free from unnecessary and confusing divisions.

In defining insanity, a question of the greatest interest to all alienists, Dr. Ball's ideas would have been received with marked consideration and attention, but, in adhering to Esquirol's definition that "insanity is a disease of the brain, ordinarily chronic, without fever, and characterized by disorders of sensibility, of the intelligence and of the will," he not only fails to add anything new to the subject, but retains an old definition which, though it may have been, at the time it was originated, consistent with the ideas of psychiatry then current, must now, in our present state of knowledge, be regarded as inefficient and

erroneous. Dr. Ball's definition of an insane person is concise and to the point. "An insane person is one who, in consequence of profound disorder of the intellectual faculties, has lost his moral liberty more or less completely, and consequently has ceased to be responsible to society for his actions." This corresponds very closely to the legal definition.

In speaking of the treatment, Dr. Ball begins with the statement that he considers insanity to be an essentially curable disease, especially so in the initial period, and deplores that patients are not treated at that time by competent alienists. He considers isolation, preferably in an asylum, essential, especially in cases of delirium and mania. Hydropathy, in the form of baths continued for hours and even days, is recommended, together with the usual list of internal remedies.

The chapters on the causes, symptoms, and pathology, although containing nothing new, are well written and comprehensible. This is especially true of the section on general paralysis, to which several lectures are devoted.

Taking the book as a whole, it has certainly achieved its purpose.

Types of Insanity; an Illustrated Guide in the Physical Diagnosis of Mental Disease. By ALLAN McLANE HAMILTON, M. D., one of the consulting physicians to the insane asylums of New York City, etc. New York: William Wood & Co., 1883. 4to, pp. 36; ten plates. [Portfolio cover.]

We regard this work as an exceedingly creditable production. Subordinating generalization to the task actually in hand—that of portraying the striking features displayed by the subjects of the typical forms of mental disease—Dr. Hamilton has furnished us with a series of delineations far more available for purposes of diagnosis than the most elaborate and labored descriptions. There is, to be sure, little in these plates that may be called admirable from an artistic point of view; they are rugged and bold, and withal most graphic—and it is precisely those qualities that are needed for the purpose.

Vulnableness as the drawings are, it would be a grave mistake so to take it for granted that they constitute all that is of worth in the book. The text is an indispensable guide to their proper interpretation. Moreover, it includes a very useful summary of the laws governing the commitment of lunatics in the various States. It also contains judicious suggestions to the practitioner in regard to methods of examining persons supposed to be insane, and as to the conclusions to be drawn from the facts brought out in such examinations.

A Treatise on the Diseases of the Nervous System. By JAMES ROSS, M. D., LL. D., Fellow of the Royal College of Physicians, London, etc. Illustrated with Lithographs, Photographs, and Three Hundred and Thirty Woodcuts. Second Edition, Revised and Enlarged. New York: William Wood & Co., 1883. Two vols. Pp. xxi, 1,023; ix, 1,047.

In no department of medicine is there a demand for accurate and profound work to such a degree as in that of diseases of the nervous system. It proposes for explanation not only anatomical lesions and perverted functions, but a series of enigmas in regard to human action which have come thither as to "a court of last resort," and have been the occasion of the most patient and praiseworthy investigation. From neurology one passes easily to psychiatry, and this is kindred to psychology; hence the value of the former as a factor in completing the knowledge of the human intellect. To publish to the world, therefore, a treatise upon this subject is a brave undertaking, whether for the purpose of setting forth one's own opinions and investigations, or to serve as a compendium or collation of the works of

others. Both varieties are useful. The treatise under consideration is essentially of the latter class.

There are few medical books which show in their arrangement better evidence of a logically constructed plan. Nothing is assumed; the work begins with the primitive germ, and the subject is unfolded in the order of nature. It is interesting reading, because it is so clear. The style is that of a history or an essay, and not a mere clinical digest. It is an encyclopædia of facts and of references to the literature of France, Germany, England, and America. For a work of its kind, it is too voluminous. The parts that could best be spared are the numerous chapters on the anatomy and physiology of the various divisions. This work is well done, and is serviceable, especially as a means of reference; but there are works which are particularly devoted to these subjects, while this, to judge from its title, is devoted to diseases of the nervous system.

The author advances no new theories of his own, but his work may be considered a mirror of the most authentic literature in this department. Dr. Johnson said of Burton's "Anatomy of Melancholy" that it was the only book that would get him out of bed an hour earlier than usual in the morning. In point of entertaining character, profit, and the great amount of work exhibited in its preparation, we can see a resemblance to this book which we have had under consideration.

An Ethical Symposium: being a Series of Papers concerning Medical Ethics and Etiquette from the Liberal Standpoint. By ALFRED C. POST, WILLIAM S. ELY, S. OAKLEY VAN DER POEL, LEWIS S. PILCHER, THOMAS HUN, WILLIAM C. WEX, JOHN ORDONAU, DANIEL B. ST. JOHN ROOSA, CORNELIUS R. AGNEW, ABRAHAM JACOBI, and H. R. HOPKINS. With an Appendix. New York: G. P. Putnam's Sons, 1883. Pp. ix-213. [Price, \$1.25.]

This collection of essays on questions connected with the controversy that has now been carried on in the profession for the past two years includes contributions by men who are known as well for their general unwillingness to enter into controversial discussion as for their prominence in the legitimate work of medicine. It must be granted, therefore, that what they have here written is fairly entitled to be pondered along with what has been set forth on the same questions by Dr. Flint, Sr., and Dr. Piffard.

Viewed as a campaign document, the book is undeniably strong, but it may be questioned if the physicians of the State of New York, for whom, we take it, it is specially intended, have not long since made up their minds on the main question. There may be some of them, however, who are still unsettled, as well they may be, in view of the many false issues that have been raised; and for them the contents of this volume ought to put the ideas of the new-code party in an intelligible light.

BOOKS AND PAMPHLETS RECEIVED.

The International Encyclopedia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery, by Authors of Various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Woodcuts. In Six Volumes. Vol. IV. New York: William Wood & Co., 1884. Pp. xxiii-987.

Veterinary Medicine and Surgery in Diseases and Injuries of the Horse. Compiled from Standard and Modern Authorities, and edited by F. O. Kirby. Illustrated by Four Colored Plates and One Hundred and Sixty-eight Wood Engravings. New York: William Wood & Co., 1883. Pp. 332. [Wood's Library of Standard Medical Authors.]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JAN. 19, 1884.

THE EMERSLEBEN OUTBREAK OF TRICHINIASIS.

IN view of the part lately taken by M. Paul Bert in affording scientific aid and comfort to those Frenchmen who are interested in keeping American pork out of France, it becomes a matter of some moment to ascertain the opinions of other scientific men on the Continent as to the reality of the dangers alleged to lurk in the flesh of the American hog. Some light is thrown upon the matter by M. Brouardel's account of an investigation of the recent outbreak of trichiniasis at Emersleben, in Saxony, conducted by himself and M. Grancher. Briefly stated, M. Brouardel's story, as given at a recent meeting of the Paris Academy of Medicine, and published in the "Gazette hebdomadaire de médecine et de chirurgie," is as follows:

The outbreak took its origin from a trichinous hog which was the offspring of an English boar and a native sow. This hog, which had been kept in a stable, was killed on the 12th of September. The butcher gave a slice of the carcass to two of his neighbors, who ate it raw the next day. Both of them fell sick on the 16th, and died a month later. The remainder of the meat was minced by the butcher, mixed with other meat, and was sold from the 13th until the 19th of September. All who made use of this mixture, except five persons who took it slightly cooked, used it perfectly raw, spread on bread, after the German fashion, and soon there were two hundred and fifty persons sick with the disease, of whom forty-two died. In the neighboring villages, sausages sold by the same butcher gave rise to a hundred and twenty-six cases, of which eleven were fatal. At first the true nature of the trouble was not suspected, but subsequent facts left no room for doubt on this point. M. Brouardel and M. Grancher made two post-mortem examinations, and found trichinæ in abundance in all the muscles in which they are usually to be found. It is considered worthy of note that the severest cases were those of persons who ate the meat soonest after the animal was killed; its morbid effect seemed to diminish steadily with the lapse of time. The woman who cooked the meat for the family of five persons who escaped infection was herself affected, having eaten some of the mixture before cooking it.

M. Brouardel doubts the efficiency of an inspection of pork under ordinary circumstances; it is tedious, difficult, and unsatisfactory, he remarks, unless the examiner has access to the whole carcass. Moreover, it is unnecessary, since every one has it in his own power to guard against infection by simply cooking the meat. Is it well, then, he asks, to renew the prohibition of the importation of American salted pork? Virchow is quoted as having stated to M. Brouardel and M. Grancher

that never to his knowledge had it been demonstrated scientifically that the use of American pork had given rise to a single case of trichiniasis in the human subject in Germany, although it was eaten raw.

When we consider that M. Brouardel's remarks were a *résumé* of his official report to the minister of commerce, their force becomes doubly obvious. It is plain that, if any inspection of hogs is to be relied on to allay the fears of those who really believe the American animal to be so dangerous as M. Paul Bert would have them think, that inspection must, in view of the difficulties to which M. Brouardel calls attention as inseparable from operations with the marketable product, be carried on at the place of slaughter, rather than at foreign ports of entry. As our Government seems disposed to provide for such inspection, it remains only a question whether our European friends are willing to trust to American inspectors.

THE MECHANISM OF RUNNING.

AN article in the "Gazette hebdomadaire de médecine et de chirurgie" for November 9, 1883, describes M. Marey's ingenious application of the process known as instantaneous photography to the delineation of bodily movements in general, but especially those involved in the act of running. As a distinct image is produced on a sensitive surface of gelatinized bromide of silver by an impression lasting only $\frac{1}{250}$ of a second, the apparatus referred to is capable of furnishing no fewer than forty well-defined representations of a human subject while the latter is passing as rapidly as possible over the space covered by a single step. These successive images, being taken at equal intervals of time, not only show the relative positions of the body and limbs at each corresponding instant, but also render it possible to deduce a law of movement applicable to any given point of the person depicted. This law being ascertained, the nature of the forces concerned can also be determined. Thus far, however, these possibilities are hardly more than theoretical, the experimental data obtained by M. Marey not having yet been subjected by him to the laborious scrutiny required for a complete solution of the problem.

The principal point to be considered in this inquiry was that which regarded the intensity and direction of the forces brought into play by the contact of the feet with the ground. M. Marey, assisted by two of his colleagues, devised a method of estimating these forces by means of plates fitted to the soles of the subject's feet, and resting upon India-rubber tubes. These tubes are closed at one end, and at the other open into a reservoir which is connected with a registering drum. The downward pressure exercised upon the tubes in walking or running forces the contained air into the drum, thus causing a lever which is moved by the drum-membrane to leave a trace on a revolving cylinder. In this way the equivalent of the successive vertical pressures is obtained in kilogrammes. That of the horizontal impulses imparted to the feet is arrived at by causing the dynamometer, when moving forward, to roll upon small balls in connection with which a registering apparatus is employed similar to that just described. As yet, merely tenta-

tive experiments have been made with this instrument, and only a partial light has been shed upon the physiological processes involved in human locomotion. Extreme care is called for in judging of the indications afforded by such methods of registration when applied to movements that are at all rapid. Means of exact verification unquestionably exist, and it is also possible to conduct the experiments under conditions excluding all possibility of error. The results hitherto attained are, however, insufficient to settle finally a question which has been raised in regard to the mode in which running is accomplished. This question may be stated as follows: Running is very possibly performed in some cases (especially of those persons who have never really learned to run) by a series of leaps. On the other hand, it is also possible that, as M. Marey supposes, the feet, in executing this movement, may spring aloft without any forcible rebound—without impulse imparted by the ground—but merely through a rapid flexion of the limb. That this is the real method has not yet been proved experimentally. The matter can only be decided by a thorough prosecution of M. Marey's investigations.

MINOR PARAGRAPHS.

A NEW MEDICAL SOCIETY IN NEW YORK.

A MEDICAL society has lately been organized in New York, entitled the New York County Medical Association, of which Dr. William Detmold is president, and Dr. E. A. Judson secretary. The new organization includes among its members several of the gentlemen who have taken a prominent part in opposing the recent action of the Medical Society of the County of New York and the Academy of Medicine on matters connected with the ethical controversy, and it is generally understood that the new society was organized as a sort of protest against that action. Be that as it may, it is pleasant to be able to record that the president, in the course of his remarks at the first meeting, spoke in terms that have been interpreted as conciliatory. On the occasion referred to, last Monday evening, Dr. Austin Flint, Sr., read an exceedingly valuable paper on the relations of the bacillus of Koch to tuberculosis, and Dr. William H. Welch presented an interesting specimen of echinococcus of the liver.

THE CONTAGIOUS PLEURO-PNEUMONIA OF CATTLE.

In the matter of this plague, as well as in that of the interests of our pork trade, Congress seems to be awaking to a just sense of the necessity of taking some decided action. The foreign origin of the disease is properly dwelt upon, and there is little doubt that quarantine measures adequate to the prevention of further importation will be provided for. But, in addition to guarding against fresh sources of infection in the future, we have to deal with those already established in various parts of the country. To this end the liberal use of money is necessary, and the temper of Congress seems to be to grant the funds required. Notice has been given in the House that a bill will be introduced appropriating \$10,000,000 for the purpose of suppressing contagious diseases among cattle, the amount to be distributed according to the different State and territorial representations in Congress, but providing that each State and Territory must itself contribute a sum equal to what it receives out of the appropriation. On the authority of Professor Law, of the Cattle Commission of the Treasury Department, it is

expected that, with sufficient appropriations, the disease can unquestionably be stamped out within a year.

The measures thus far alluded to seem to have had their origin among members of Congress. Others are to be asked for, it is reported, by those interested specially in the cattle trade. A deputation representing a recent meeting of these gentlemen in Chicago has been in conference with the Department of Agriculture, as a result of which action a memorial is to be addressed to Congress asking for legislation making the shipment of cattle known to be diseased a penal offense, establishing a Cattle Bureau in the Department of Agriculture, and giving the Commissioner of Agriculture increased powers for action in eradicating the contagious diseases of cattle.

THE MORAL EFFECT OF BOTANICAL STUDY.

Is there anything essentially infuriating to the ordinary medical student about the study of botany, or does he simply single out that gentle science as the most available field in which to display his resentment at all amplifications of the curriculum? Not many years ago a professor of botany was actually compelled to leave the faculty of the University of Vienna and return to Berlin, all because his life was made miserable by the students. He had had the misfortune to come to the chair as the successor of an amiable but somewhat lax old gentleman. Unlike the latter, he insisted that the students should really learn botany, and personal violence was his reward. A like story now comes to us from Canada. It seems that some of the medical students at McGill University, in Montreal, are said to have maltreated their professor of botany lately, because he had raised the standard of his examinations.

YELLOW FEVER IN NEW YORK.

Last Sunday a man died of yellow fever in Perry Street. He was a resident of New York, who had recently visited Havana, where he remained eighteen days and then returned home, arriving in New York on the 7th inst. The first manifestation of the disease seems to have taken place on the day after his arrival. It is comforting to learn that the Board of Health does not consider that there is any danger of the disease spreading. None of the facts in the case point to there having been any warrant for the detention of either the man or the ship at the quarantine station, but the incident ought certainly to be taken as showing the utter folly of laxity in our quarantine system.

GLUCOSE AS AN ARTICLE OF FOOD.

THE popular outcry against glucose, senseless in so far as it is founded on the notion of its injurious action upon the system when taken into the stomach, but quite justified as a protest against the mania for adulteration, is likely to be somewhat quieted by a report upon the subject lately made to the Commissioner of Internal Revenue by a committee of the National Academy of Sciences, consisting of George A. Barker, William H. Brewer, Charles F. Chandler, Wolcott Gibbs, and Ira Remsen, who state that the process by which glucose is made is unobjectionable, and that the product is in no wise inferior to cane sugar, save in the matter of sweetening power.

A UTOPIAN SCHEME.

As if there were not already enough medical colleges in the country, a bill has been introduced into the United States Senate providing for the establishment of a "University of Medicine." To support this proposed institution, an appropriation of a mill-

ion dollars is contemplated as an endowment fund. We are told that "allopathic, homœopathic, and eclectic methods are all to be represented by professorships." Besides the endowment fund, a further sum of a hundred thousand dollars is to be devoted to the purchase of land and the construction of the necessary buildings.

CARBON AND HYGIENE.

THE president of an hygienic society has discovered another deadly enemy to health—none other than carbon. According to this gentleman and his associates, most diseases have their origin in "biliousness," and that, in turn, is for the most part due to an excess of carbon in the body, and to the obstructions caused thereby. They object to the use of sweet milk as an article of diet, especially for sick people, on account of the carbon it contains!

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 15, 1884:

DISEASES.	Week ending Jan. 8.		Week ending Jan. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever.....	6	4	5	2
Scarlet Fever.....	88	2	81	14
Cerebro-spinal meningitis....	1	0	4	4
Measles.....	68	3	52	6
Diphtheria.....	59	11	33	9
Yellow Fever.....	0	0	1	1

THE HOSPITAL SATURDAY AND SUNDAY FUND.—Up to Tuesday, 175 of the 340 churches in the association had been heard from, and at that time the total received amounted to \$31,836.47. The account will be kept open until the first of February.

EGYPTIAN RAGS are likely to be subjected to inspection at the hands of American sanitary officials prior to their leaving Egypt, the inspectors to be appointed by the United States consuls.

THE ELLIS BEQUEST TO THE HARVARD MEDICAL SCHOOL.—Last week we recorded the fact of the late Dr. Calvin Ellis's having left the sum of \$50,000 to the school, under certain conditions. It is now stated that, in the event of the trust-fund amounting to more than that sum, the income of the excess, after deducting five per cent., is to be applied to paying a salary to the professor of pathological anatomy.

ST. LUKE'S HOSPITAL, OF ST. LOUIS, is to receive a legacy of \$10,000 by the will of the late Mr. Ralph Sellow.

THE ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.—According to a newspaper dispatch, eight of the professors and all the students have withdrawn from the college, the trouble being attributed to financial mismanagement.

A MALICIOUS SUIT was lately brought against Dr. David Webster by one Dr. Robert H. Hayes, the action being for alleged malicious prosecution and false imprisonment, Dr. Webster having prosecuted Hayes for practicing medicine without compliance with the provisions of the law. Hayes sued for damages in the sum of \$50,000. The defense was that the defendant acted as president of the Medical Society of the County of New York in the matter, and that the result of the action brought by the society was only to compel Hayes to comply with the law. Judge Freedman directed the jury to find for the

defendant, and accordingly the verdict was rendered in Dr. Webster's favor.

THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE.—We are informed that the membership in the classes this season has numbered seventy-two, being somewhat less than that of the New York institutions of a like character, owing largely, it is supposed, to the fact that both the University of Pennsylvania and the Jefferson Medical College have post-graduate courses, and therefore naturally receive the greater number of their own alumni who come to Philadelphia for advanced teaching.

SMALL-POX IN PENNSYLVANIA.—The disease was reported as prevailing to an alarming extent in Girardville last week. The schools were all closed on that account.

THE UNITED STATES COLLEGE OF MEDICINE AND SURGERY.—A charter having been applied for by an institution in this city under this title, it is stated that a committee of the Board of Regents of the University of the State of New York has reported adversely on the application, on the ground that the conditions prescribed by law have not been complied with.

THE GARFIELD MEMORIAL HOSPITAL.—At a recent meeting of the incorporators it was announced that the total cost of the property, together with the sums thus far authorized to be expended for improvements, would amount to \$49,500, and that a suit in connection with an estate, until lately pending in Philadelphia, had been decided in such a manner that the hospital had come into possession of the funds at issue. A board of directors was elected, including Dr. Samuel C. Busey, of Washington, and Dr. John S. Billings, of the army.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—We learn that the college has taken a lease of a building in East Twentieth Street, between Second and Third Avenues, four stories in height, and having ninety-five feet frontage, into which it will move on or about the first of February. This will give ample room for the present work of the school, as well as for a hospital department, which, we learn, is to be established. Bedside instruction will then be given under the same roof with the regular courses.

THE NEW YORK OPHTHALMOLOGICAL SOCIETY held its nineteenth annual meeting on the 14th inst., and elected Dr. David Webster president, Dr. C. J. Kipp, of Newark, N. J., vice-president, and Dr. James L. Minor secretary and treasurer.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—At the seventy-eighth annual meeting, to be held at Albany, February 5, 6, and 7, 1884, the president's annual address will be on "The Reciprocal Attitude of the Medical Profession and the Community," by Dr. Alexander Hutchins, of Brooklyn.

The following titles of papers, printed in the order of their reception, are to be placed before the Business Committee: Malignant Lymph-Adenoma, with Cases, Dr. L. S. Pilcher, Brooklyn; Dysmenorrhœa: its Treatment by Dilatation, Dr. W. W. Potter, Buffalo; Operation for Closure of the Hard and Soft Palate, with Results, Dr. A. Vanderveer, Albany; Value of Electricity in Diagnosis, Dr. L. E. Felton, Potsdam; The Treatment of Suppurative Otitis in Children, Dr. S. Sexton, New York city; A Case of Sympathetic Serous Iritis, with Remarks, Dr. D. Webster, New York city; Strangulated Hernia, with Reports of Five Cases treated by Operation, Dr. J. Chapman, Medina; Two Unusual Cases in Obstetrical Practice, Dr. W. C. Wey, Elmira; A New Method of Partial Exstirpation of the Cancerous Uterus, Dr. E. Van de Warker, Syracuse; Two Cases of Poisoning by Tansy, Dr. W. Woodward, Big Flats; Hæmaturia, Two Cases of Extra-uterine Pregnancy, Two Cases

of Rupture of the Heart, Dr. T. H. Squire, Elmira; Management of Face Presentation, Dr. E. L. Partridge, New York city; Morbid Somnolence, Dr. C. L. Dana, New York city; An Operation for correcting Deformity of the Auricle, Dr. O. D. Pomeroy, New York city; Rheumatic Joint Lesions of Children, Dr. V. P. Gibney, New York City; Biographical Sketch of the Late Dr. G. W. Bradford, Dr. C. Green, Homer; Orbital Cellulitis, Dr. T. R. Pooley, New York city; Biographical Sketch of the Late Dr. J. F. Jenkins, Dr. G. J. Fisher, Sing Sing; Poisoning by Potassium Chlorate, Dr. G. B. Fowler, New York city; Spontaneous Pyæmia, Dr. J. B. Todd, Parish; The Establishment of Hospitals in Small Cities, Dr. E. H. Parker, Poughkeepsie; House Sanitation—as it is and as it should be, Dr. W. F. Sheehan, Rochester; Croup as distinguished from Diphtheria, Dr. A. G. Crittendon, Clifton Springs; The Medical Society of the State of New York in its Relation to Sanitary Science and the Public Health, Dr. E. Harris, Albany; A Plea for the Pharmacopœia, Dr. L. Johnson, New York city; Canalization, as applied to Amputation of the Female Breast, to insure Primary Union under One Dressing, Dr. A. G. Gerster, New York city.

In accordance with the by-laws, authors of papers must arrange with the Business Committee both as to the hour when the papers can be presented and as to the time to be consumed in reading.

THE MEDICO-LEGAL SOCIETY.—At the annual meeting, held on the 9th inst., the President, Mr. Clark Bell, delivered his sixth inaugural address, after which Mr. John E. McIntyre was elected assistant secretary, to fill a vacancy. Thus completed, the list of officers for the ensuing year stands: President, Mr. Clark Bell; vice-presidents, Dr. R. Ogden Doremus and the Hon. Delano C. Calvin; secretary, Mr. Leicester P. Holme; assistant secretary, Mr. John E. McIntyre; treasurer, Mr. Andrew S. Hammersley; librarian, Mr. R. S. Guernsey; curator and pathologist, Dr. Andrew H. Smith; corresponding secretary, Mr. Morris Ellinger; chemist, Dr. C. A. Doremus; trustees, Mr. W. G. Davies, Dr. E. H. M. Sell, the Hon. M. S. Isaacs, Dr. J. C. Thomas, and the Hon. B. A. Willis; members of the permanent commission, Dr. Wooster Beach, Mr. Austin Abbott, Dr. R. J. O'Sullivan, the Hon. A. G. Hull, Dr. Edward Bradley, and the Hon. G. H. Yeaman. Dr. J. G. Johnson, of Brooklyn, read a paper on "Concussion of the Spine in Railway Injuries."

THE NEW ASSISTANT SURGEON-GENERAL OF RHODE ISLAND.—Dr. George H. Kenyon, of Providence, has been appointed assistant surgeon-general, on the staff of Governor Bourne, with the rank of lieutenant-colonel.

THE NEW YORK INFANT ASYLUM.—The following-named gentlemen have been elected on the medical board for the ensuing year: Dr. W. R. Birdsall, Dr. A. N. Bell, Dr. F. H. Bosworth, Dr. E. Bradley, Dr. C. L. Dana, Dr. G. B. Fowler, Dr. W. F. Mittendorf, Dr. W. J. Morton, Dr. H. G. Piffard, Dr. O. D. Pomeroy, Dr. F. M. Warner, Dr. H. Marion-Sims, Dr. J. L. Smith, Dr. C. F. Stillman, Dr. J. C. Thomas, Dr. W. H. Welch, and Dr. J. S. McNamara.

DISEASES OF ANIMALS.—By a letter from Dr. H. J. Detmers, published last month, it will be seen that the French demagogue, Bert, is too sweeping in his assertions concerning the disease-infected American hog. Bert is reported as quoting Dr. Detmers to the effect that diseased hogs passed his house in Chicago daily, and they were sold cheap and shipped to Bordeaux and Havre, France. Dr. Detmers distinctly denies having made such statements, and adds most positively that, during the last four months, he has examined four thousand hogs, and has seen

at least ten times that number in one of the most prominent packing-houses in Chicago, and has not seen the slightest trace of disease. The disease known as hog-cholera is not so prevalent as in former seasons. The statement of Dr. Detmers concerning the prevalence of disease in swine is very important.—*Sanitary News.*

THE "MEDICAL GAZETTE."—The publisher announced in the last issue for 1883 that with that number the "Gazette" ceased to exist. It has been succeeded by the "Æsculapian," a notice of which appeared in this journal for January 12th.

CORRIGENDUM.—In our issue of the 5th inst., in the report of the discussion on Dr. Partridge's paper (p. 22), Dr. Charles Jewett was said to have made this statement: "Of the thirty-six treated with thorough antiseptic precautions, only five had a temperature above 99°5' longer than one day," etc. It should have read as follows: "Eleven of the thirty-six patients had temperatures which exceeded 99°5' for one or more days in the first week."

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 5, 1884, to January 12, 1884:*

BROWN, P. R., Captain and Assistant Surgeon. Assigned to duty at Fort Huachuca, A. T. Par. 9, S. O. 119, Department of Arizona, December 27, 1883.

EGAN, P. R., First Lieutenant and Assistant Surgeon. Upon reporting of relief, to proceed without delay from Fort Huachuca, A. T., to Fort Apache, A. T., and report to the commanding officer for duty at that post. S. O. 119, Department of Arizona, December 27, 1883.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending January 12, 1884:*

MCMURTRIE, D., Surgeon, ordered to the Naval Rendezvous, Philadelphia, Pa.

PRICE, A. T., Surgeon, detached from the Receiving Ship St. Louis on the 15th, and ordered to the U. S. S. Ossipee on the 22d.

RUSSELL, A. C. H., Passed Assistant Surgeon, ordered to the U. S. S. Ossipee on the 22d.

ECKSTEIN, H. C., Passed Assistant Surgeon, detached from the Naval Hospital, Philadelphia, and ordered to the Receiving Ship St. Louis.

WELLS, HOWARD, Passed Assistant Surgeon, from the Naval Rendezvous, Philadelphia, and ordered to the Naval Hospital, Philadelphia.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, January 21st:* Medico-Chirurgical Society of German Physicians.

Tuesday, January 22d: New York Dermatological Society (private); New York Surgical Society (private); Medical Society of the County of Putnam, N. Y.; Jersey City Pathological Society.

Wednesday, January 23d: New York Pathological Society; American Microscopical Society of the City of New York.

Thursday, January 24th: New York Academy of Medicine (Section in Obstetrics); Harlem Medical Association; Brooklyn Pathological Society.

Friday, January 25th: Yorkville Medical Association; New York Society of German Physicians (private); New York Clinical Society (private).

Saturday, January 26th: New York Medical and Surgical Society (annual—private).

OBITUARY NOTES.

HENRY A. DU BOIS, M. D., OF NEW HAVEN.—Dr. Du Bois died last Sunday, in his seventy-sixth year. He was born in New York city, August 9, 1808, and in 1817 he entered the Military Academy of Louis Bançel, a royalist refugee of the first French Revolution. In 1822 he left the academy, and in the following year he entered Columbia College, from which he was graduated in 1827. He was graduated from the College of Physicians and Surgeons, New York, in 1830, and in the same year was appointed house physician to the New York Hospital. In 1831 he went to Europe to complete his medical studies, and returned to New York in 1834, and in 1835 he was appointed one of the physicians to the New York Dispensary. In 1840, on account of ill-health, he relinquished medical practice, and in 1854 he moved to New Haven, where he has since resided. He was a member of the Connecticut Medical Society, and an honorary member of the Medical Association of New Haven.

JOHN T. GILMAN, M. D., OF PORTLAND, ME.—Dr. Gilman died on Wednesday, the 16th inst., at the age of seventy-eight. He was graduated from the academic department of Bowdoin College in 1826 and from the medical department in 1829, and for several years past has been a member of the Board of Trustees of that institution. He has been president of the Maine Medical Association, and was one of the founders of the Maine General Hospital, and was said to have been the first to perform Cæsarean section in Maine.

Letters to the Editor.

SKIN-GRAFTING.

29 WEST THIRTY-FIRST STREET, January 5, 1884.

To the Editor of the New York Medical Journal:

SIR: The material which is removed from the sides of a ruptured perinæum, when they are vivified preparatory to uniting them, makes the best skin-grafts to be obtained from any source. They are half skin and half mucous membrane, and seem peculiarly adapted for this purpose. A far larger proportion of the grafts will "take" when this material is used.

Yours truly,

JOHN HARVEY GIRDNER, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held January 17, 1884, FORDYCE BARKER, M. D., LL. D., President, in the chair.

ANTISEPTIC DRESSINGS AS THEY ARE USED IN THE NEW YORK HOSPITAL.—Dr. ROBERT F. WEIR read a paper with this title. [See page 57.]

Dr. ALFRED C. POST, being requested to open the discussion, could add little to the exhaustive remarks by Dr. Weir upon the subject. He was fully convinced of the great value of antiseptic surgery, although he was not prepared to accept all the details of treatment that had been mentioned, or acknowledge

their necessity, especially in minor cases. It had seemed to him that in small wounds, if not involving important parts, it was not necessary to go through the whole formality of these complicated dressings; that is to say, in cases which were pretty sure to do well without it. As to the importance of perfect cleanliness and thorough drainage, there could be no question. There was one substance, which had been introduced by Kocher, of Berne, in the dressing of wounds, which he had found of great value in certain cases: he referred to subnitrate of bismuth, dusted on the wound with a pepper-box.

Dr. JOSEPH D. BRYANT had been watching the progress of antiseptic surgery since 1868, at which time he was interne in Bellevue Hospital. While he was in the hospital twelve cases of compound fracture were brought in, which were treated according to the antiseptic methods then commonly employed there. The wound was washed with a solution of one part of carbolic acid to eighty of water, and a dressing soaked in a solution of the strength of one part to one hundred and twenty was applied. A plaster-of-Paris splint was also applied. But two of the patients died. In one of these the injury had been a very severe one, and recovery could hardly have been expected to take place under any circumstances. During the past few months he had made use of the bichloride solution in his service at the Bellevue Hospital, the solution consisting of one part of corrosive sublimate to two thousand of water. In but one or two instances had suppuration developed in which it should have been prevented by the antiseptic, but in those cases the fault could be distinctly traced to negligence in carrying out the details. He had full faith in antiseptic methods of treatment, but he thought it important that the hospital surgeons should seek to give to the general practitioner a less expensive and complicated method than that which has been described by the author of the paper. As to the different antiseptic agents, at present the question seemed to rest between bichloride of mercury, carbolic acid, and, he might say, iodine. Different substances might be employed with advantage as dressings: peat, gauze, etc. He fully concurred with Dr. Weir in giving great credit and honor to Mr. Lister for the work which he had done in bringing antiseptics so prominently before the profession.

Dr. L. A. STIMSON thought the subject involved two distinct questions which should be borne in mind during the discussion: First, the causes of complications in surgical wounds, and, second, the value of antiseptic agents in the prevention or correction of the effects of those causes. The question did not alone involve the prevention of the development of germs or their entrance at the seat of the wound. If such were the only question, all that would be necessary to carry every case on to a successful issue would be the discovery of an efficient germicide, and its thorough application. It seemed to Dr. Stimson, however, that these complications could arise from other causes than the presence of germs, and what those other causes were was unknown. Every surgeon had met with cases in which all possible avenues for the entrance and the development of germs seemed to have been occluded, and yet sepsis developed. In illustration, reference was made to a case in which a man fell and injured the ankle. Nowhere on the surface of the body was the skin broken except at a small spot on the back. Yet within a few hours after the accident the ankle became swollen, there was cracking under pressure, symptoms of septicæmia developed, and, on amputating the limb, it was found to be infiltrated with pus. In this case there had been no opportunity for germs to enter and give rise to inflammation. If it were said they might have entered at the wound on the back, it would show the necessity of applying antiseptic dressings to every slight scratch which might exist

upon the body, however distant from the seat of the principal wound. If the result could be attributed to the germs taken in with the respired air, or with the food, it would show the impossibility of carrying out the principles of antiseptics in an effectual and practical manner. We were not justified, then, in asserting, as some surgeons had done, that by observing and executing faithfully the details of antiseptic treatment we should render the development of sepsis impossible. Instead of always attributing want of success to some possible oversight in the application of the antiseptic treatment, he thought we might better admit other possible sources of complication than the presence of germs. Moreover, it was not certain that the beneficial effect which had apparently attended the use of antiseptic methods had always been due to the germ-destroying properties of the dressings; it might be due to an unknown influence exerted by the presence of some one of the substances employed in the dressing. If we admitted that the presence of certain germs would give rise to sepsis, it did not follow that the presence of all germs would do so, or that all cases of sepsis were due to the presence of germs. It did, however, justify us in the employment of an agent which would prevent the development of germs capable of producing sepsis. Dr. Weir had stated that peat in itself had been shown to possess antiseptic properties, inasmuch as certain cases had done well when this agent in its natural state had been employed as a dressing to the wound. But certain experiments which Dr. Stimson had made went to show that peat was full of bacteria. Therefore, if it had exerted any influence in the prevention of sepsis, it had been by some other means than its germicide properties. He summed up his views by saying that he believed in antiseptics which purified the patient, the surgeon, the assistants, and the instruments. Further, he wanted drainage, compression, and rest.

Dr. ARPAD G. GERSTER believed that there were certain points which marked the corrosive-sublimate solution as superior to carbolic acid as an antiseptic agent. The latter agent produced a sanguinolent discharge from the wound surface fifteen to twenty-four hours after its application, and rendered a change of dressing necessary, with its attendant danger of giving rise to sepsis; it also frustrated one principle in treatment, namely, long-continued rest. The corrosive-sublimate solution, on the contrary, had no tendency to cause absorption of the newly formed blood-clot, and thereby give rise to a discharge demanding a change of dressing. He had been conducting tests of the value of certain substances for the dressing of wounds which could be obtained in this country, and consequently were cheap and could be readily procured for use by the general practitioner. Of these substances, sawdust soaked in a bichloride solution, one to five hundred, and afterward dried, had given the greatest satisfaction. It had proved fully as valuable and effective as any of the more costly and fanciful dressings. Ordinary cotton-wool, rendered antiseptic by the bichloride, had also been used with excellent results in a very unfavorable case occurring in an aged man, who had sustained a compound fracture at the elbow joint. Dr. Gerster was called to attend the injury, and was obliged to improvise his dressings, which he did by preparing ordinary cotton-wool with a solution of bichloride. The fracture, which was Y-shaped, was reduced, the dressings carefully applied, and the patient recovered without an unfavorable symptom. He referred to the importance of care in carrying out the antiseptic treatment, and the observance of strict cleanliness, and cited a case in which threatened suppurative after an operation at the shoulder joint was averted by opening the wound and discovering that the unfavorable symptoms were due to some dirty pieces of catgut, among those intended to establish drainage from the wound. He believed that not a

few of the failures were due not only to the admission of germs, but even to the admission of masses of dirt.

Dr. WEIR was reminded of the old fable of the golden and silver shield; one looked at it on one side and the other on the other side, but it was only a shield. He agreed with the remarks made by Dr. Gerster, and also those made by Dr. Stimson, although they apparently differed. Whenever there had been failure in his attempts to prevent the development of sepsis, he had searched carefully to learn the cause, and in some instances had been able to trace the source of the trouble, but in others, as Dr. Stimson had said, the cause could not be discovered. He had also raised his voice in warning against undertaking operations which hazarded life where but very little was to be gained. The subnitrate of bismuth was of value in certain cases, but it had not been largely adopted as a dressing, as it did not possess qualities preventing the development of erysipelas, like the other agents, other than iodoform, referred to.

NEW YORK SURGICAL SOCIETY.

(Concluded from page 48.)

Dr. LANGE said [in answer to the President's question, "whether, if suppurative and inflammation should occur, there would not be more or less impairment of the muscles of the jaw"—Dr. Gerster's paper being under discussion] he should think so, and that in some cases a certain degree of difficulty in mastication had followed the operation, but not sufficient to make it specially uncomfortable for the patient.

Dr. MARCOE said that, in thinking of these cases for many years past, he had been strongly impressed with the feeling that, if it could be shown that these most severe and more radical, more perfect operations for neurotomy were certainly successful in curing the disease, they would be justifiable; but his impression was that the operations which had been described by Dr. Howe and by himself were very much less dangerous, less severe, and productive of results which at least would compare favorably with those which had been recorded of the severer operations referred to by Dr. Lange and by Dr. Gerster. It might be a less perfect operation, but he could conceive that, if the scissors fell outside of the posterior dental nerve, all had been accomplished that could be done by excision of the nerve, and he did not believe that it was necessary to destroy Meckel's ganglion. His own feeling had been that these severe operations did not offer so much better prospect of success as to justify their performance, but at the same time he did not wish to dogmatize upon the subject.

Dr. H. B. SANDS said that within a year he had had occasion to perform Luecke's operation, not for the purpose of curing neuralgia, but with the intention of removing a tumor which was supposed to be situated in the sphenomaxillary fossa. The tumor was found where it was supposed to be, but was so extensive and so firmly attached that the operation for its removal was abandoned as impracticable. In that case the wound did well, and the bone became consolidated without necrosis. There was now to be noticed, about nine months after the operation, considerable difficulty in opening the mouth, but he believed this not to be due to the operation, but to an increase of the size of the tumor. He was certain that the operation proposed by Dr. Gerster, as well as the one referred to by Dr. Lange, excelled all other operations in the ease and certainty with which the parts lying in the sphenomaxillary fossa were exposed to view. Many years ago he performed Langenbeck's operation for the removal of a tumor situated in the sphenomaxillary fossa, and found that the end was accomplished without difficulty. He

would think the nerves in the same region might be removed with equal ease.

DEATH FROM ETHER.—Dr. E. L. KEYES reported a case of death from ether occurring in a colored boy upon whom he was operating in Bellevue Hospital for excision of the knee joint. The patient was about twelve years old, and was apparently in perfect health, except the disease of the knee, which had existed for a number of years. He took the ether at the hands of one of the house staff, and there was no untoward symptom for an hour or more. Dr. J. D. Bryant was present, and, after the operation was substantially completed, he felt the patient's pulse, pronounced it excellent, and left the room. About a minute later, the gentleman who was administering the ether said that something was wrong, and called attention to the facts that the boy was breathing faintly and that the pulse had disappeared from the wrist. Dr. Keyes at once resorted to all the usual measures for resuscitation, such as hanging the head over the table, artificial respiration, hypodermic injections of ether, ammonia, and brandy, faradization of the diaphragm, strapping the extremities, etc., and these efforts were continued for forty-five minutes, but without avail, as the boy was dead. Dr. Keyes thought that the boy was probably dead before he had time to resort to any measures for resuscitation. The autopsy was made by the house surgeon, who reported that all of the organs were normal. All the internal organs were intensely congested, and the heart was empty, having stopped in systole.

The ether used was that manufactured by Powers & Weightman; the quantity was nearly one pound. There was no mucus in the larynx, the patient had not vomited or attempted to vomit, everything seemed to be going on nicely, when suddenly death occurred by the heart.

Dr. LANGE said the only sad experience with ether he had ever had was in a female patient upon whom he had operated for a strangulated umbilical hernia. She had a weak heart at the beginning of the operation. A fit of vomiting occurred, the heart's action ceased, and also respiration. Tracheotomy was immediately performed and the trachea sucked out, but life was extinct.

Dr. SANDS thought it important to distinguish between those cases in which death occurred slowly from asphyxia and those in which it occurred suddenly from cardiac paralysis. In the latter class of cases it seemed doubtful whether there would be time to resort to any measures for restoration, as death took place sometimes almost instantly. If transfusion could be done in time it would be indicated in some cases. He recalled two cases of death from ether which occurred in the New York Hospital. One case was that of a stout, healthy man, who in the use of a pruning knife accidentally wounded his right carotid artery, and nearly lost his life upon the spot from profuse hæmorrhage. He was brought to the hospital in a state of exhaustion. Dr. Willard Parker immediately came to see him, called a consultation, and proceeded to expose the injured vessel. In that case Dr. Sands remembered that he had his finger upon the patient's pulse, which became imperceptible immediately after the incision had been made through the skin. The operation was suspended for a few minutes, some restorative was given, the pulse was again felt, and the operation was proceeded with. Then a second time the pulse stopped, the face became pale, respiration ceased, and all attempts at resuscitation proved unsuccessful. In that instance death was due to the excessive action of ether upon a heart already enfeebled by loss of blood, and therefore it might, perhaps, have been averted by a preliminary transfusion.

The other case occurred in the service of the late Dr. Allin, who was about to remove a tumor of the upper jaw from an old woman. The patient was in the sitting posture, and in that

case also, although the face had become somewhat livid from ether, just after the incision was made through the skin, before much blood escaped, the pulse stopped, and the heart's action was not resumed. The suddenness with which death occurred in such circumstances was very appalling, and seemed to give little encouragement for the employment of any attempts to restore animation. He believed that in Dr. Keyes's case death had already taken place when failure of the pulse was noticed.

The PRESIDENT said Dr. Allin's case excited a great deal of attention at the time, and observations determined that many of the deaths from ether occurred in connection with operations about the jaw and neck. This fact subsequently received a more scientific explanation from Schiff, who showed that, when animals were anesthetized, pinching the neck would arrest the heart's action and the respiration. Still, it was well known how safe ether was. While chloroform kills one in twenty-five hundred, ether killed only one in twenty-five thousand. Perhaps this low mortality with ether might be explained by the fact that, were it not for the warnings which ether gave, death would take place more frequently than it did.

Dr. Post said the only two fatal cases which he had seen from the administration of ether were those in which operations for the removal of tumors of the neck were being performed which caused considerable embarrassment of respiration. There was no blood nor vomited matter to account for the fatal termination.

The PRESIDENT added another case which came under his observation while he was an interne in the New York Hospital, that of a double incarcerated serotal hernia of immense size, which could be previously partially reduced, though usually filling the scrotum. The house surgeon gave ether and forced up the contents of the hernia into the abdomen, and the man ceased to breathe. Nothing was found on the autopsy to explain the sudden death, and the fact that the abdominal cavity was compelled to receive more than it was accustomed to, and thus the action of the diaphragm was interfered with, was received as the possible cause.

Dr. L. M. YALE referred to a collection of seven thousand cases of anesthesia in one of the English hospitals, and remarked that in all the instances where alarming symptoms had occurred it had been noticed that the patients who had been rolled upon the left side recovered, while those who had been rolled in the opposite direction died. Whether or not this was a general law was not stated, and he was unable to say.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of December 12, 1883.

PROOF THAT HUMAN MILK CONTAINS ONLY ABOUT ONE PER CENT. OF CASEIN; WITH REMARKS UPON INFANT FEEDING.—Dr. ARTHUR V. MEIGS read the following paper:

You must give me your indulgence for bringing before you a subject necessarily somewhat dry in its details, but its great importance must be my justification. Nearly two years ago I had the pleasure of reading here a paper upon "Milk Analysis," when I described the method I had worked out, and briefly detailed my results. The main conclusion was that human milk never contains more than about one per cent. of casein, and this observation I then claimed to be a new one, and very important, as showing how we should feed infants so unfortunate as to be deprived of their natural sustenance. A year ago or more I delivered a lecture to the class at the Pennsylvania Hospital, which was subsequently published in the "Medical News" of November 4, 1882, in which I described a plan of feeding deduced from the results of numerous experiments and analyses. This evening I wish, first, to offer proof that the results arrived at by the

milk had been previously ascertained to contain 788 milligrammes of sugar to each 100 c. c., which made its percentage of sugar 7.221, as already stated. These figures are sufficiently nearly parallel to prove the point, for, by the method of crystallization described, it was not expected that all the sugar present would be obtained in the crystalline form, some of it being necessarily precipitated with the casein in the course of the manipulations with alcohol; but only to obtain it pure, and in sufficient quantity, to prove that the sugar existed in the milk in the large quantity shown by the analysis, and therefore necessarily, by exclusion, the existence of only the small amount of casein. The demonstration thus obtained seems incontrovertible, for, when the existence of the large amount of sugar is shown, it follows as a necessary corollary that there can be only the small amount of casein, and therefore the existence of the small amount of casein in human milk is proved.

As a means of further proving that the sugar obtained by crystallization, as described, was entirely free from any traces of casein, it was tested for me by Mr. J. K. Hecker, the apothecary of the Pennsylvania Hospital, by the Nessler test described by Wanklyn and Chapman ("Water Analysis," by J. Alfred Wanklyn and Ernest Theophrastus Chapman, London, 1876, p. 25). This test decomposes the casein and forms ammonia from the nitrogen. When the crystalline sugar was subjected to its action, it showed it to be practically free from casein.

Cows' milk, when subjected to the same process of precipitation of the casein by alcohol, after the removal of the fat, yielded only about four or five per cent. of crystalline sugar. The manipulations were not carried out with the care that was taken when human milk was examined, for there is no dispute as to the amount of sugar in cows' milk; the experiment was therefore made merely to afford confirmatory evidence of what was shown by that upon the human milk. For if only a little more than four per cent. of sugar existed in human milk, as is claimed by Vernois and Becquerel, and others, and this being the quantity universally conceded to exist in cows' milk, then, when both were subjected to the action of the same reagents, the same amount only of crystalline sugar should be yielded. This, however, was not the case.

One of the strongest proofs of the correctness of the estimates of fat in milk is afforded by the fact that after it has been separated it can be seen, and the eye tells that it is fat. When sugar is crystallized, and can be seen and felt, and examined with the microscope or a magnifying-glass, and the characteristically shaped crystals of milk-sugar are seen, the fact that it is sugar, and nothing else, becomes self-evident.

To test still further the accuracy of the method described in my former paper upon milk analysis, I carefully analyzed a specimen of human milk and found it contained the different proximate constituents in about the usual quantities. Then I separated from a further portion of the milk, taken at the same time and under exactly parallel circumstances, fresh portions of the casein and sugar, which I gave to Mr. Hecker, to test their purity; the sugar to be subjected to the Nessler test, to discover if it contained any casein, and the casein to be subjected to the action of Fehling's test, to find whether or not it was free from all traces of sugar. The casein entirely failed to produce any effect upon the copper solution, thus showing that it was free from sugar, while, if a small portion of the sugar was added to the solution, the characteristic reduction of the copper at once took place. When the sugar was subjected to the Nessler test, .05 gramme being introduced into the retort when the decomposing materials were ready, it almost entirely failed to react, showing no more change than would be accounted for by the distilled water which had been used to prepare the sugar. This distilled water must have contained traces of organic matter; for

when it was subjected to the test it showed slight traces of ammonia. The test is so delicate that it is only by the greatest care and nicety in preparing the materials that they can be had perfectly free from all nitrogenized materials. The conclusion was that the sugars—both that prepared by the ordinary process advised for analytic purposes, and that obtained by crystallization—were, practically speaking, free from casein.

If, then, it has been shown that human milk contains approximately 87.1 per cent. of water, 4.2 per cent. of fat, 7.4 per cent. of sugar, and 0.1 per cent. of inorganic matter, the proof that it contains, not 3 or 4 per cent. of casein, as is commonly taught, but only about 1 per cent., is complete.

It may seem bold to make statements directly contradictory of the correctness of many of the usually accepted standards, but it is done with the full knowledge that it is liable to contradiction. There is an article on Infant Foods, by Professor Albert R. Leeds, in the "Transactions of the College of Physicians," third series, vol. vi, Philadelphia, 1883, in which he gives results quite different from my own; but, as he gives no account of the methods he pursued, any criticism of his results is at the present time impossible.

In the endeavor to find a food which shall be the best for infants who have to be hand-fed, there are two considerations, either of which might be selected as the basis from which to start. In the first place, the desired goal might be attained by making trial of all sorts of foods, and, these being put to the test of experience, the good would be retained and the bad gradually weeded out, until at last perhaps the most suitable would be found, and slowly introduced. On the other hand, the desired end might be attained by trying to produce a food which should be, as nearly as possible, like what nature has provided for the infant. Many trials have been made in the past by both these methods, but to the second one justice has never been done; for, if my conclusions are correct, a proper understanding of the composition of human milk, from which to start, has been wanting.

A clear understanding being now had of its proximate constituents, and the proportions in which they exist, it is possible more intelligently to set about finding how the same elements may be had, and mixed together to make an artificial food like human milk. Cows' milk is almost universally the basis of the foods used, in this country at least.

The artificial food which I shall presently recommend is the outcome of a study of the subject from both of the standpoints suggested, and its advantages are demonstrable. Upon theoretical grounds, it is what a food for infants should be; for analysis of human milk and cows' milk has shown what is their composition, and in the artificial food the elements have been introduced in the same proportions as they exist in human milk. Experience has for many years past been tending in the direction of proving such a food to be what is needed; for, while almost innumerable manufactured infant foods of every variety have been introduced, and have often for a time been thought all that could be desired, they have all, one after another, fallen into disuse and been forgotten; but the use of cows' milk continues to hold its own, and in civilized countries is employed ten times more than all the manufactured foods together. The question, however, remains of how to use it, and the various methods suggested have been almost as numerous as the physicians who have advised them. For a long time the great majority of writers upon infant diseases and diet have recommended that cow's milk should be diluted before giving it to young infants; and this, they all agree, is because it contains too much casein, which causes a curd that only infants of the strongest digestion can with safety assimilate.

The weight of testimony that cows' milk contains much

more casein than human milk is so great that it is astonishing how almost universally the analyses of human milk of Vernois and Bequerel, and of those who have arrived at like conclusions, have been accepted and given credence, in spite of the fact that the evidence of the senses of every one who has examined into the matter is diametrically opposed to such an acceptance. Although, as already said, the weight of authority has long been in favor of the use of diluted milk, still there have always been those who recommended it to be used pure. Of later years more and more has been said and written upon the advantages to be derived from the use of cream, or diluted cream. Dr. J. Forsyth Meigs, who was a well-known authority upon the complaints of children, for years used with great success a mixture of equal parts of milk, cream, lime-water, and a weak arrow-root-water, with a little sugar. Cream mixed with whey, to increase the sugar and lessen the amount of casein, has been recommended. Biedert (Virchow's "Archiv," Band 60, 1874) has written an article, and concludes that the best food is cream and water, one part to four with fifteen grammes of milk-sugar to the half-litre of the mixture, the strength of this to be gradually increased. Biedert made many experiments comparing the relative coagulability of human and cows' milk, and again the digestibility of the coagulum; as can therefore be presupposed, his experiments turned mainly upon the two kinds of casein and their differences. He concludes that "there are two important points in which human and cows' milk are unlike: first, in the different amounts of casein contained; and second, in the absolute chemical difference of the two sorts of casein. The first of these considerations would be of but little importance, however, if the analyses which place the average of casein in human milk at four per cent. are correct; its importance, on the other hand, would be very great if it usually contains—as I, in agreement with Vierordt's view, believe—only from two to two and a half per cent. I think many further analyses are necessary to establish this point absolutely. Even if this view is accepted, however, dilution of cows' milk with equal or more parts of water is not sufficient to remove the differences. It is well known that such a dilution does not remove all the disadvantages which arise in the use of cows' milk, and my clinical experience has taught me that even dilution with two parts of water does not attain the desired end; and the explanation of this positive irremovable difference is to be found in the important chemical differences which exist, the casein of cows' milk coagulating so much more easily and the coagulum being so much more firm than is the case with the casein of human milk; and, on the other hand, the coagulum being so much more difficult of solution or digestion.

"Until we succeed in actually making the casein of cows' milk identical with that of human milk, it will be necessary to give infants only so much of it as they can digest (no matter how great the necessary dilution may be), and to make up to them with carbo-hydrates (fat and milk-sugar) the lack of albuminates in the food." He further says: "After numerous experiments I have come to the conclusion that the amount of cow casein which an infant's food should contain is one per cent. The fat and sugar in cows' milk appear to be as easily digested as, and in no wise different from, those contained in human milk. If, therefore, one eighth of a litre of sweet cream (which, according to Hoppe, contains $9\frac{1}{2}$ per cent. of fat, 3 per cent. of sugar, and 4 per cent. of casein) is diluted with three eighths of a litre of water, which has been previously boiled, and milk-sugar is added in the proportion of 15 grammes to the half litre, the desired cream mixture is produced, and contains 1 per cent. of casein, 2.4 per cent. of fat, and 3.6 per cent. of milk-sugar, which will be found, under all circumstances, to be well borne, and is a sufficiently nourishing food." The greatest part of

Biedert's admirable article consists of a detail of experiments made of treating cows' and human milk, and the caseins obtained from both sorts, with a variety of reagents, and observing the different relative effects produced. His conclusion is "that the pure casein of human milk is, in both its physical and chemical nature, different from that of cows' milk." The casein of cows' milk, when isolated, has always an acid reaction, while, on the contrary, that obtained from human milk is always alkaline. If human casein is treated in a certain way with acid, there is produced an "acid modification of human casein," which has many points of resemblance with ordinary cow casein; on the other hand, by treating cow casein with alkali, a substance is produced which shows, with many reagents, identically the same changes that are, by like treatment, produced in human milk. After careful examination of these two substances, however, Biedert concludes that "cow casein treated with alkali is, in many respects, much more like human casein than the original cow casein, yet it always shows unmistakable differences." Although he makes a strong case, and there are many reasons in favor of accepting his conclusions, yet, in the present state of knowledge of casein, the difference can not be considered as absolutely demonstrated.

There are objections to such a belief; it has been already shown that human milk contains only one third the amount of casein that exists in cows' milk; and there is a further important difference, which Biedert also appreciates, that human milk is always alkaline, while, on the contrary, cows' milk is acid. A coagulum, therefore, produced in a solution which is relatively so concentrated as is the case in cows' milk, and, further, in a fluid which is acid in reaction, is a very much denser and larger one than can be had from the relatively weak solution in human milk; and it is quite possible, therefore, that the difference may be owing to the different degrees of concentration, and the difference of the fluid media in which the casein is held; it can not, therefore, yet be conceded that Biedert has absolutely demonstrated that the two caseins are chemically and physically different, although he has brought many strong arguments to bear. It is impossible to decide with certainty about casein in all its relations, while as yet it is not even known whether it is a simple or compound substance. Its solubility or insolubility after it has once been precipitated depends in great part upon how the original coagulation was effected, and whether or not it was thoroughly dried. If casein is once thoroughly dried for a good many hours at 100° C., it becomes absolutely insoluble in water, and will not dissolve even in a strong solution of caustic soda. Lehmann ("Physiological Chemistry," Cavendish Society Translation, vol. i, p. 378) says: "I believe that the jelly-like coagula of women's milk are more dependent on the alkaline state of the fluid than on any peculiarity in the casein; at all events, I have found that women's milk, when acid, yields a much thicker coagulum than when alkaline, and cows' milk, when alkaline, a much looser coagulum than when acid—facts of the highest interest and value in relation to dietetics."

Whatever may finally be decided about casein—whether those of cows' and human milk are as different as Biedert believes he has proved, or whether they are nearly alike, the difference being merely that the quantities are not the same and the containing fluid media different—what most concerns the subject in hand is the relatively small quantity which exists in human milk; for it shows conclusively that, in a food for infants, the amount of casein in cows' milk must by some means be reduced to equal the amount in human milk. The correct conclusion of Biedert, that not more than one per cent. of cow casein should be present in a food for infants, is the more surprising as he arrives at the opinion from a totally different reason from the true one that human milk contains only one per cent.

	Human. (Mean com- position from milk of 43 women.)	Artificial Food: Cream, 10 c. c.; milk, 5 c. c.; lime- water, 10 c. c.; water, 15 c. c.; sugar, 2-2 grms. (Cream con- tained 12-470 per cent. of fat.)	Artificial Food: Cream, 2 tablespoon- fuls; milk, 1 do.; lime-water, 2 do.; sugar-water, 3 do. (Cream contained 17-129 per cent. fat. Each tablespoonful was 20 c. c. Sugar- water was 174 drachms to pint.)	Cows' Milk.	Cows' Milk.	Eagle Brand Condensed Milk.	Condensed, 1 teaspoon- ful (10-233 grammes) to 6 table- spoonfuls (90 c. c.) of water.	Cream.	Cream.	Creams. No. 1	Amount of Fat in Each.
Water.....	87-163	88-557	87-639	88-549	87-012	27-942	92-673	79-122	79-901	" 2	19-020
Fat.....	4-283	3-506	4-765	3-310	4-209	10-335	1-095	13-362	12-470	" 3	17-507
Casein.....	1-046	1-214	1-115	2-792	3-252	9-522	.868	2-919	2-846	" 4	13-362
Sugar.....	7-407	6-669	6-264	4-898	5-000	50-861	5-206	4-140	4-308	" 5	12-470
Ash.....	.101	.254	.217	.451	.527	1-340	.158	.457	.475	" 6	17-129
Total.....	100-000	100-000	100-000	100-000	100-000	100-000	100-000	100-000	100-000	" 7	16-024
Error.....		.009 per cent. loss.	.029 per cent. in excess.	.029 per cent. in excess.	.058 per cent. loss.	.476 per cent. loss.	.009 per cent. in ex- cess.	.109 per cent. loss.	.039 per cent. in excess.	" 8	14-960
										" 9	18-082
										" 10	16-502
										" 11	12-159
										" 12	15-611
										" 13	19-071
										" 14	11-782
										" 15	18-619
										" 16	21-465
										" 17	21-290
										Average from the 17.....	16-398

The human milk average is the result of ten analyses made. Eight separate analyses were made of the milk of different women; on another occasion, equal quantities of milk were taken from twenty-seven (27) women, and a portion of this analyzed; on a third, equal quantities of milk were taken from eight (8) colored women, and this subjected to analysis.

Although Biedert's conclusions are very instructive, as he arrives at them from clinical experience, and surprisingly correct in many respects, he goes astray in assuming an incorrect standard of the average composition of cream. The estimate of Hoppe, which he assumes to be correct, places the amount of casein too high; for, as may be seen by a reference to my table, cows' milk and cream do not contain more casein than sugar. The usual estimates rate the casein too high, at the expense of the sugar. This being the case, and Biedert reckoning the composition of his cream mixture from this incorrect standard, and not from any analysis either of the cream or the mixture itself, as should have been done, places his fat amount too low, as only a very poor cream is so weak in fat as his standard rates it. A mixture made as he directs is far weaker in sugar than human milk, and therefore, although perhaps proper for temporary use in cases of indigestion, can not be accepted as a standard of what an infant food should be; and it entirely fails to accomplish what he says should be done—make up to the infant by an excess of carbohydrates the lack of albuminates which exists in the food—for it only contains about half as much sugar as exists in human milk.

All these facts show that the tendency has been constantly toward the truth, and that physicians have been learning empirically for what reasons cows' milk has failed as an infant food, and how the difficulties which its use entailed were to be overcome. The use of cream has been advised; cream and whey; diluted milk; diluted milk with milk-sugar; cream, milk, lime-water, and arrowroot-water; and finally comes Biedert's cream mixture, and he arrives more nearly at the true solution of the difficulty than any of the others, but still falls wide of the mark, from want of a precise knowledge of the composition of human milk, and of cows' milk and cream.

Investigators have thus, year by year, and step by step, been approaching the desired goal, and it needed but a touch for light to be let in upon the whole subject. Many hours and much careful and patient labor have been expended in investigations in this field, and no single worker could have done his part without having the results of the labors of his predecessors before him, to guide him a long way in the field, and give him easily the knowledge which would enable him, after much toil and trouble, to advance one little step more toward what was

previously unknown. Thus, no individual investigator, no matter how important the advance in knowledge he may have made, should assume too large a share of credit; for it can be but a very small part of the great whole, and would be valueless but for the rest, into which it fits, and completes that which would otherwise be useless.

The necessary data being now at hand, it is comparatively easy to construct a food which shall, at least, be more nearly what is needed than any previous one. In making such a food, there are two matters to be considered: the proximate constituents must be in the same relative proportions as they are found in human milk, and they must be in a medium which shall be, as human milk is, alkaline. This latter end is easily accomplished by the use of a due amount of lime-water, and is justified by the fact that it is a matter of experience, almost universally acknowledged as true, that it is a most useful adjunct, rendering cows' milk more easy of digestion by the human stomach. The quantity of lime-water to be used should be one fourth of the total by measure. This may seem to many persons an excessive quantity, but when it is understood that if made as ordinarily directed, by agitating water with lime and then filtering, it contains only two decigrammes of lime in each litre, it becomes plain that the use of lime-water means the administration of a great deal of water and very little solid matter. The above estimate was arrived at by direct experiment; 10 c. c. of freshly made, filtered lime-water, being evaporated, were found to yield 2 milligrammes of lime. This is a very large estimate of the amount of lime soluble in water, as may be seen by reference to the "U. S. Dispensatory," or the "National Dispensatory," both giving it as much less. That the use of lime-water (alkali) in an infant food makes a difference in its behavior with some reagents is shown by the following experiments: A food was made in the proportions which will presently be given, and 10 c. c. of it agitated with ether and alcohol, as directed in my previous paper, read before the society, for the extraction of the fat; it was found that the coagulation took place in the form of a fine network, which remained permanently distributed through the lower stratum of the liquid, no sediment forming at the bottom. When an exactly similar mixture was made, except that the lime-water was replaced with water, leaving the fluid acid, and this agitated with ether and alcohol, thick, heavy curds

formed, which at once sink to the bottom. Again, when two mixtures—one with and the other without lime-water—were treated with 10 drops of acetic acid, the one without lime-water showed much larger, heavier coagula than that which contained lime-water. These experiments show with certainty that addition of lime-water does the alter the coagulability of the casein when experimented with, whatever may take place in the stomach; and I have already quoted Lehmann's opinion that the acidity or alkalinity of milk makes a difference in the formation of the coagulum. Whatever may be the value of these artificial experiments, the great reason for the use of lime-water is that the experience of man has found it good, and that is sufficient reason for its use in the present state of knowledge. It is quite possible that in the future something better may be found—phosphate of lime, perhaps, for it is the salt which exists in milk in larger quantity than any other; but further and exhaustive study of the inorganic constituents of both human and cows' milk will be required to place this matter upon an exact scientific basis. It is very desirable that further study of the salts of milk should be prosecuted, and it is much to be hoped that in the near future exhaustive analyses will be made. The amount of inorganic matter in cows' milk is so much greater than that in human milk that, as there is at present no means of removing it without altering or destroying the other component parts, no infant food can be made exactly like human milk in respect to the amount of salts contained.

So far as bringing the other proximate constituents to like proportions with those in human milk, the first step must be to so dilute with water as to get the desired quantity of casein; the fat and sugar can be increased by the use of the necessary quantities of cream and commercial milk-sugar. Taking the averages of cream and good city milk as already given (see table), it will be found by calculation that if there be mixed together 10 c. c. of cream, 5 c. c. of milk, 10 c. c. of lime-water, and 15 c. c. of water, with 2.2 grammes of milk-sugar, the desired mixture is had. That this is the case should not be trusted to mere calculation, but an analysis of the mixture should be made, both to verify the calculation and to observe how the mixture behaves when subjected to the analytic processes, whether it in its reactions more closely resembles cows' milk, with which it is made, or human milk. The table shows the results obtained by such analyses.

The easiest way to prepare and use the food is as follows: There must be obtained from a reliable druggist packages of pure milk-sugar containing seventeen and three quarters drachms each. The contents of one package is to be dissolved in a pint of hot water, and it is best to have a bottle which will contain just one pint, as there is then no need for further measuring. The contents of one of the sugar packages is put into the bottle, and, when filled with hot water, the sugar soon dissolves, and it is ready for use. The dry sugar keeps indefinitely, but after it is once dissolved it sours if kept more than a day or two in warm weather; it is understood, therefore, that the sugar-water must be kept in a cool place, and if it should at any time become sour, as is easily discovered if it is smelled and tasted, it should be thrown out, and, after the bottle has been carefully washed with boiling water, the contents of a fresh package dissolved. A milkman must be found who will serve every day fresh, good milk and cream. By good milk is meant ordinary milk, such as is easily procured in most cities, and not rich Jersey milk; and in the same way the cream should be such as is ordinarily used in tea and coffee, and not the very rich cream of fancy cattle. The reason that ordinary milk and cream are recommended is because they are within the reach of almost every one, and not because they are any better than the rich milk of high-bred stock. If Jersey milk was to be used, it

would be necessary to analyze specimens, and then make the necessary calculations as to how to dilute it to obtain the desired relative proportions of the proximate principles. When the child is to be fed, the nurse should mix together two tablespoonfuls of cream, one of milk, two of lime-water, and three of the sugar-water, and then, as soon as the mixture has been warmed, it may be poured into the bottle and the food is ready for use. If the infant is healthy, this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. Twice as many tablespoonfuls of each of the ingredients must be mixed together, making sixteen tablespoonfuls (about half a pint) in all.

This food should not be given any stronger until the child is eight or nine months old at least; but, if the infant is a healthy one, it may take as much of it as it wants, but always of the same strength. A robust infant will often take three pints, or even more, in each twenty-four hours. It is an easy matter for any one to learn how to make the lime-water, and it is advisable to have it made at home, for a great deal is saved, and, if it is made at home, much trouble and expense are saved.

With regard to the propriety of increasing, from week to week, the strength of any artificial food given to infants, there has been some question. Most authorities have advised that the foods should be increased in concentration until finally the infant is given pure cows' milk. The propriety of this procedure, during the earlier months of life at any rate, is very doubtful. Although there is some reason to believe that the quantity of solid ingredients in human milk increases from month to month as lactation goes on, such an opinion should be accepted only with great caution, for it seems likely that, if there is any increase in the concentration of the milk after the colostrum has once disappeared, and the nursing process has settled down into its even course, the increase is so slight that it may be disregarded. Analyses show that the milk of a woman whose child is two months old does not differ materially from that of one whose child is twelve or fifteen months old. If, then, nature has made no difference, which our means of analysis will detect, between the milk of a woman who has been nursing two months and one who has nursed twelve, an artificial food which has been found to suit an infant of two months should be made more concentrated only very gradually, and with careful observation of the effect upon the health of the infant. It is best, therefore, if the infant thrives and grows as it should, not to make any change in the food until after six to nine months of age have been attained.

With regard to the use of condensed milk as a food for young infants, I can only repeat what I said in my former paper, that I can not believe that any article which has been canned, and kept for weeks or months, or perhaps still longer, can be so good as the same thing when fresh. My table of analyses shows the composition of the dilution of condensed milk commonly used in this city, and it shows that the proportion of fat is much too small, and for this reason, partly at least, it fails as a food. Its success is due to the fact that it contains nearly the same proportions of casein and sugar as exist in human milk. Dr. Ellwood Wilson is in the habit of directing that after the first few weeks a small proportion of fresh cream be added to the condensed milk, and this would render it still more nearly what is needed; this practice, which can not be too much commended, if condensed milk is used, is not, however, at all a common one. Withal, I am unable to believe that condensed can be as good as fresh milk, if properly used. There are many other points of great interest connected with this subject which I should have liked to bring to your attention, but my paper has been already much too long.

The President called attention to the following points for discussion:

1. Any method of analysis which is to be generally accepted must be susceptible of verification.
2. All previous analysts agree about the amounts of water, fat, and ash; therefore, about the amounts of casein and sugar alone is there any disagreement.
3. Further, all agree about the sum of the amounts of these two elements (casein and sugar), but diverge widely about their individual amounts.
4. If it has been proved that, collectively, casein and sugar amount to about eight per cent., and that the sugar is about seven per cent., it then follows that the casein is only one per cent.
5. When subjected to the same method of analysis, human milk yields nearly seven per cent. of crystalline sugar, and cows' milk about four per cent.
6. To be able to make a proper food for infants, we must first understand the composition of their natural food—human milk.
7. Is there any great and important difference between the casein of human milk and that of cows' milk, except that it is contained in the latter in a larger proportion?
8. In preparing cows' milk for infants, clinicians usually direct that it be diluted, and some sugar and lime-water added; but more precision of advice is needed.
9. What is the best method of making an artificial food like human milk?
10. What is the propriety of increasing the nutritive quality of the food from month to month, as the child grows older?
11. What can be said of condensed milk as a diet for infants?

Dr. J. CHESTON MORRIS, in opening the discussion at the request of the Chair, said: It gives me great pleasure to pay my tribute of respect to the accuracy and industry which Dr. Meigs has so evidently exhibited in his investigations, though they have led him to very different results from my own. Accurate analysis, even of inorganic bodies, is difficult, as many of us know who have tried it; but accurate analysis of inorganic mixtures is far more so, from the changes continually going on in them.

A perfect method of milk analysis is probably not yet attained. Dr. Meigs having replied to a question from Dr. Morris—that he obtained the amount of fat present by repeated washings of the milk with ether and alcohol—Dr. Morris resumed: The extraction of all the fat present is difficult, owing to the globules being surrounded by a thin membrane of casein; this has been proved by Mitscherlich, who advises the previous agitation of the milk with a small quantity of solution of caustic potash, when the ether immediately dissolves out the fat. Perhaps the best process yet devised is that of the Society of Public Analysts of Great Britain, given at length in various numbers of the "Analyst."

The amount of water present in normal milk does not vary very much, nor does that of ash; but, judging from the report of over 12,000 analyses, made by Dr. Viette for the Aylesbury Dairy Company of London, that of the fat in cows' milk does vary from three per cent. to between five and six per cent. Any result less than three per cent. is regarded as proof of adulteration. So far is the amount of water, ash, and fat from being regarded as agreed upon among analysts, that the problem with them generally has been to obtain a method which would enable them readily to ascertain this latter factor; and Mr. Hehner has constructed, as a means to detect adulteration, a table showing the relation between the specific gravity and the fat present, the solids *not* fat (i. e., casein and sugar) being

taken as constants. To what extent these are really so may be judged from the analyses of Dr. Viette, above quoted, showing a maximum of 10.31 per cent. and a minimum of 8.97 per cent. in over 12,000 analyses. The total average is about 9.5 per cent. in cows' milk. But all cows' milk is not alike; that from different breeds has marked peculiarities and differences, perceptible even to the eye and the taste. The milk from the Jersey cow is rich in fat, but poor in casein and sugar; that from the Durham is comparatively watery, and poor in fat and sugar, though relatively rich in casein; that of the Devon is nearly as rich in fat as that of the Jersey, and in casein as the Durham, and richer in sugar than either of them. The commercial uses of these breeds in butter- and cheese-making bear out the above statements.

Another reason for thinking that one per cent. is too low an estimate of the amount of casein in human milk is, that such a proportion would hardly supply the needed amount of nitrogenous food to the infant. Lehmann tells us that the amount of milk secreted daily by the human female may be estimated at 2.2 per cent. of her weight; so that a woman of 150 pounds would produce 3.3 pounds milk, or 23,100 grains—rather more than a quart and a gill. If only one per cent. of this is casein, it would give only 231 grains; if she weighed only 120 pounds, there would be only 2.64 pounds milk, of which only 185 grains would be nitrogenous. Authorities on diet tell us that the human being requires food amounting to one twenty-fourth to one twentieth of his weight, of which one fifth, or one per cent. of the whole, should be nitrogenous. Applying this rule to the infant, which has certainly larger needs for food for development, a weight of 10 pounds, or 70,000 grains, would require 700 grains of nitrogenous food—a figure nearly approximating that which would be yielded by a milk containing three per cent. of casein. In colostrum, however, we have a fluid poor in casein, but rich in sugar and fat.

Casein and sugar, we are told by Lehmann, are both soluble to some extent in alcohol. I have studied the question of the identity of casein of cows' and human milk, without being able to fully satisfy myself, but am inclined to regard them as differing mainly in coagulability. This may depend on the salts with which they are associated, as may also the acidity or alkalinity of the milk. These salts have, relatively to the serum of the blood, a preponderance of phosphates and potassium salts to the chlorides and sodium salts; and the acidity or alkalinity of cows' milk is influenced by their food. As a rule, I believe it is alkaline.

I am in the habit of directing, as food for new-born infants, a mixture resembling colostrum—one part cows' milk to two or three of water, with a little sugar, for infants of two to six months; equal parts of milk and water, warmed and sweetened, for infants over six months; two parts milk and one of water, etc. As to quantity and frequency, much must depend on the child.

Dr. PARRISH: I can not pass judgment upon the chemical question, but the matter of substitutes for human milk is one that I am brought face to face with every day in private practice and in public institutions. I have had but little successful results with any of the prepared foods in the market, except condensed milk. I have frequently been called to see infants who have been seriously sickened by the use of such foods, or by other ill-advised articles of infant diet.

If I have the care of a child from birth, who is to be brought up without human milk, I begin with condensed milk; during the first few days I direct that one heaped teaspoonful should be dissolved in thirty teaspoonfuls of water; about the end of the first week one teaspoonful of the milk in twenty-five of water; at the end of a month one teaspoonful in twenty of

water; at about the end of the second month I have added one fourth cream; at the eighth month a change is made to cows' milk, diluted with one third water, with occasional use of beef-tea, etc., according to the age.

I do not think a child using condensed milk for sixteen or eighteen months continues to thrive so well as if the method stated were resorted to. Cows' milk is unsafe for young infants in the cities.

The addition of cream is advantageous by overcoming constipation accompanying the use of condensed milk, and by contributing very perceptibly to the nutrition of the infant.

If a child, dependent chiefly on cows' milk, is taken sick with bronchitis or any febrile disease, or with any digestive derangement, I recur to condensed milk as a sick diet.

Dr. MEIGS, in closing the discussion, said: I do not see that anything has been said to disprove what I have advanced, which was, substantially, that if analysis shows the water, fat, sugar, and salts of milk to equal a certain amount, then the casein can only equal the difference between that amount and the total quantity of milk taken. We know that these four substances are, and can identify and estimate them. What casein is, however, is not yet fully understood, but we can not escape from the conclusion as to its small amount in human milk, unless the process of analysis be shown to be erroneous in regard to some one of the other four constituents. I have noticed, incidentally, that the clear ethereal solution of the fat of milk sometimes lets fall a precipitate after standing. This I at first thought to be casein, but, as it melted when warmed, it must be some one of the forms of fat, but is insoluble in ether.

I do not think that the specific gravity is any guide as to the composition of milk. Mr. Wanklyn has shown its utter unreliability; nor do I think that we can distinguish the different amounts of sugar or casein in milk by the difference of taste or amount of coagulum. Milk-sugar has very little sweetish taste. The composition of milk is tolerably constant; it is not subject to such large variation within normal limits as urine is. Milk does vary much in its amount of fat. That first drawn from a woman who has not nursed her child for some hours will usually contain only two or three per cent. of fat, while that taken just after nursing may contain nine per cent.

As regards the amount secreted by women, very absurd statements—much below the proper figure—have been made by some of the older authorities, but Dr. John F. Meigs succeeded in one case in getting as much as three pints in twenty-four hours.

The salt which exists in largest quantity in milk is sodium phosphate. Cows' milk is almost always acid, while human milk is almost always alkaline in reaction.

Most authorities agree that cows' milk must be diluted when used for infants. Why is this, if not because the casein is less in human milk?

I agree with Dr. Parrish that most of the prepared foods are not good. Condensed milk is largely used by physicians in this city, and I believe its success is due to the fact that it gives only about one per cent. of casein as usually directed to be given. Condensed milk contains about fifty per cent. sugar. It is not unlikely that some of the milk-sugar is removed from it. Milk-sugar and casein are entirely insoluble in absolute alcohol, and alcohol will only take up very small quantities of milk-sugar as it becomes dilute, and only when it is very dilute will it take up any considerable amount.

My effort has been to place the demonstration of the amounts of the different constituents of human milk, so far as possible, upon a mathematical basis; and unless it can be shown that the estimates of some one of the four constituents—water, fat, sugar, or salts—are wrong, then it has been proved that human milk contains only the small amount of casein stated.

Miscellany.

THERAPEUTICAL NOTES.—*The Symptomatic Treatment of Paralysis Agitans.*—Erlenmeyer ("Centralblatt für Nervenheilkunde," 1883, No. 9; "Gazette hebdomadaire de médecine et de chirurgie," Dec. 28, 1883), after remarking that hydrate of chloral, morphine, bromide of potassium, nitrate of silver, and curare are of no avail in this affection, states that, on the contrary, the constant galvanic current, applied to the head, in the neighborhood of the nucha (feeble currents, continued from five to twenty minutes), together with the use of a combination of atropine and ergot, is followed by decided amelioration. About half a grain of sulphate of atropine is made into a mass with fifteen grains of extract of ergot, and the mass is divided into thirty pills, of which one is to be taken daily. Pure crystallized hyoscyamine the author regards as both too costly and too dangerous.

Quasi-poisonous Effects from White-Precipitate Ointment.—In the "British Medical Journal" for December 29, 1883, Mr. Shirley Deakin, of the British service in India, reports two cases of eczema which were aggravated by the use of an ointment of white precipitate, thirty grains to the ounce. In both cases the eczema was of the chronic, dry variety, and in both it was rendered acute and inoculable, so that the patients, by scratching, conveyed it to other parts of the body. It was found that both patients had obtained the ointment from the same apothecary, and the idea was entertained that the preparation was defective, but the pot from which it had been dispensed was nearly empty, and none of those who had previously been served from it had experienced any unusual effects. Mr. Deakin mentions the tendency of hydrargyrum cum creta to undergo oxidation in India, but states that he has never before known white precipitate to give rise to poisonous effects.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The annual meeting of this society will be held at Philadelphia on May 14, 16, and 18, 1884, in the Assembly Room of the Union League, Broad and Walnut Streets. The President's reception and the entertainment by the Philadelphia County Medical Society will be held on the evening of May 14th, at the Pennsylvania Academy of the Fine Arts, Broad and Arch Streets.

The by-laws require the programme of the meeting to be printed and distributed at least one month before the date of the meeting, and no voluntary paper is allowed to occupy more than twenty minutes in its reading.

Notice is hereby given that all those who wish to present papers should send the full title and a short abstract of the same to the Committee on Arrangements on or before March 1, 1884, in order that a varied and attractive programme may be prepared.

No paper will be selected for a position upon the programme of the meeting unless an abstract has previously been seen by the committee.

By order of the Committee, JOHN B. ROBERTS, Chairman,
1118 Arch St., Philadelphia.

THE MEANING OF THE TERM "GOOD HEALTH" IS LIFE INSURANCE.—A recent case in the Court of Appeals of this State is interesting as defining the term "good health" in an application for life insurance to mean that the person is well to ordinary observation and outward appearances. The Court said, in the opinion: "The question put and the answer given related not to the applicant's own health, but to that of a third person. Unless in rare and exceptional cases, the applicant, answering, could only answer from physical appearances and indications. He could not have the knowledge that an individual has of his own condition, and even in such cases self-deception is not rare, and very often entirely innocent and honest. Such an inquiry and its answer must necessarily be understood in a general and ordinary, and not in a strict and rigid, sense. One who is not a doctor, and speaks not of himself, but of a third person, necessarily gives rather an opinion founded on observed facts than an absolute and accurate fact when he describes the health of such person as good. He means, and is understood to mean, that the individual inquired about has indicated in his action and appearance no symptoms or traces of disease, and, to the observation of an ordinary friend or relative, is in truth well. He means that, because he can not usually mean anything else."

Lectures and Addresses.

A CLINICAL LECTURE IN GYNÆCOLOGY,

DELIVERED AT THE COLLEGE OF PHYSICIANS AND
SURGEONS, NEW YORK,

By T. GAILLARD THOMAS, M. D.,

CLINICAL PROFESSOR OF DISEASES OF WOMEN.

(REPORTED BY H. H. SEELYE, M. D.)

The Causes and Treatment of Abortion.—Persistent Sterility.

CASE I.—GENTLEMEN: The first patient this afternoon is Mrs. E. C., twenty-two years of age, and a native of the United States. She has been married three years, and has had no children, but has had three miscarriages.

I ask her how long she has been sick, and she replies that she has never been sick; and, as you look at her, you will believe her statement, for she has a strong and healthy appearance. So I ask her next why she has come here to see us, and she answers, because she is anxious to bear children; and, though she has been pregnant three times, she has had a miscarriage every time. She passed two years of her married life without becoming pregnant at all, and then she became so, but had a miscarriage at the end of three months. She knows of no cause for this miscarriage. In her second pregnancy she miscarried a little short of three months, but without any known cause. She became pregnant a third time, and again miscarried at about the same period as before. At none of these times does she remember to have had a fall, or to have made any violent effort, or any slip or misstep, or to have had any sudden fright, or anything else which she could assign as a cause of her miscarriages. All three of them have taken place within the past year. She complains now of no headache, or backache, or any other pain, and she walks easily and seems to be in perfect health.

Now, I show this case to you not because it is a remarkable one, for you will hear such a story as this over and over again, but because I like to show you here, not cases that are rare and such as you will seldom see elsewhere, but rather cases that are types of classes of such mild conditions as you will often meet with but which will cause you much trouble.

The history you have just heard here is one that you will hear repeated by patients again and again till you get sick of hearing it, and a patient will come back to you eight, ten, or twelve or more times, perhaps, complaining of repeated miscarriages every time, and appealing to you to help her, and, if you fail in your efforts, apparently holding you responsible for her misfortune. And let me tell you here that among the nineteenth-century women there are two classes—one, those who desire, above all things, to become pregnant and bear children; and the other, those who are anxious, above all, not to bear children. Now, this woman is thoroughly unhappy because of her sterility, and she is exceedingly anxious to bear chil-

dren. Now, forget for a moment where you are, and let us suppose that your patient is a lady of a great deal of wealth and the disposition of a large estate, perhaps, depends on her having a child, and you can imagine how unhappy she would be if she had only repeated miscarriages, and how important it would be for you to find out and, if possible, remove the causes of this mishap. In general, it may be said that miscarriages occurring at the third month are due to one of two causes more than to any others.

But first let me tell you, what you already know, no doubt, that out of one hundred cases of miscarriage more than seventy-five will occur at the end of the third month, and the next largest number at the end of the second month, and the next at the end of the fourth month, and the rest of the number will be scattered about in all the other months. That is to say, that over seventy-five per cent. of all cases of miscarriage occur at the end of the third month of gestation. There are two explanations of this fact. The first reason for it is, that at this time the placenta is just becoming thoroughly formed, while the chorion is disappearing and the manner of the nutrition of the child is changing, and, instead of being localized in the chorion, which receives its blood from the whole intra-uterine surface, it is becoming localized in the placenta, which draws its nutrition from a limited surface of the uterus; and, as the chorion degenerates and the placenta is forming and attaching itself more intimately to the uterine walls, the changing from the chorionic to the placental nutrition of the fetus is marked by a strong tendency to miscarriage. In the second place, you know that at the end of the third month the uterus is becoming so large that it is just beginning to rise out of the pelvis, and at this time, as the body of the uterus rises above the brim, if its supports happen to be a little weak, it is very apt to turn over on itself either to one side, or forward, or backward; and by this means the nutrition of the fetus is deranged, and hence this is a very frequent cause of miscarriage at this time.

Now, we will go back to the point at which I digressed and where I was saying that there are two great causes, not to mention the numerous possible causes, of habitual abortion in certain women. 1. A posterior displacement of the uterus which interferes with the proper development of the organ. 2. Syphilis. These are the two main causes; but now I will give you some of the others, merely in order to impress these two on your memories. You will sometimes find in a woman who has previously borne children that a slight single unilateral laceration of the cervix will become very irritable during pregnancy, and the reflex irritation thus caused will set up uterine contractions and bring about the expulsion of the fetus; and this will cause, perhaps, three or four abortions in the course of a year. Again, large granules will form on the cervix of some women every time they become pregnant, and these will set up enough irritation to cause an abortion. These granules sometimes resemble an epithelioma in appearance, and they are frequently mistaken for this by inexperienced physicians; but that they are not such is shown by the fact of their disappearance after every

abortion. Again, more accidental causes will produce a miscarriage in some very nervous women, and these are commonly spoken of as women who "habitually abort." But this term is too frequently applied where the physician has overlooked the true cause, and it is therefore usually only a cloak for his ignorance. Some time ago I had my attention called to a peculiar case of abortion from purely nervous influences as a first cause. The patient was a lady near the fourth month of pregnancy, who was traveling in the railroad cars with her husband. As the engine drew the cars suddenly into a dark tunnel, the roar of the train, multiplied by the echoes of the walls of the tunnel, awoke her from a sound sleep; the noise and the darkness made her believe that an accident had happened, she became greatly frightened, very soon after labor pains came on, by the time she had reached the end of her journey the uterus was contracting violently, and soon after arriving home she aborted. I was fortunate enough to preserve the placenta, and, upon examining it, I found that she had had a small placental apoplexy, and a clot of blood of the size of a walnut had formed and separated the placenta from the uterine wall, and from this focus an irritation had spread till it brought on uterine contractions which ended in an abortion.

So, also, it may be caused by a woman's measuring the height of a chair with her eye, and then unexpectedly sitting down to find it three or four inches lower than she had supposed it to be, the sudden jerk being sufficient to bring on uterine contractions. Instances are on record where such a simple matter as blowing out, instead of snuffing out, a candle, by reason of the disagreeable odor of the smoke, has caused a miscarriage; and I do not doubt that such trivial circumstances will sometimes induce it. These are all exceptional cases, and hardly to be considered. But the rule is that, in the great majority of cases where a woman has repeated miscarriages at the third month, you will find upon examination either a posterior displacement of the uterus, or that there is evidence of constitutional syphilis in the father or mother; or you may find both these conditions.

Now, this woman's husband is not here, so we can not examine him at present for symptoms of syphilis; but she says he is a healthy man, and has promised to bring him here to our clinic next week, so that we may inquire into his condition for ourselves. I think he will come, for he, as well as she, is anxious to have offspring. So we will have to wait till then to determine whether this cause for the repeated miscarriages exists here.

But there is another cause than this which will account for the miscarriages in this case. When I make a vaginal examination with this woman standing in the erect posture, I find that the uterus is bent backward toward the hollow of the sacrum, so that the greater part of the organ lies posteriorly to a line drawn perpendicularly down through the center of her body. You may ask if I think that this slight degree of displacement backward is sufficient to account for these repeated miscarriages; and I reply that I think this is a sufficient cause. Then you may ask: "How do you suppose that this insignificant cause can produce such a result?"

It would not as it is now, for that uterus is not badly displaced, but is lying only a little posterior to the central line drawn perpendicularly through her body, and, if it would keep the same position as now, it would be of no account either in a pregnant or non-pregnant woman, and no miscarriage would take place. But I will show you what occurs after pregnancy in such a case as this. At the end of the first month the uterus is slightly enlarged and its increased weight has caused it to bend over on itself still more, and so the posterior displacement is a little greater than before. At the end of two months the displacement is so great that the axis of the uterus forms almost a right angle with the perpendicular line drawn through the center of the pelvis; but even now there is no interference with utero-gestation, and the pregnancy goes on. At the end of the third month, however, when the body of the uterus has increased so much in size that it fills up the cavity of the pelvis as it lies displaced in the hollow of the sacrum, the uterus tries to rise up out of the pelvis, and the cervix does go up, but it can not pull the body up after it, because it is held down by the promontory of the sacrum, and only some lucky accident can release it. The rule is, however, that the cervix rises up, but nothing can get the uterine body out of the hollow of the pelvis; and yet, under certain circumstances, the organ will go on developing for four or five months, perhaps, without interference with the nutrition of the fœtus. But usually at the end of the third month the uterus feels the interference with its development, and so it begins to contract, and the cervix opens and labor goes on until the fœtus is expelled. Three months after, the woman goes to a doctor, perhaps, and asks him the cause of her miscarriage; and he examines her and finds the cervix all right and the uterus lying in the position I described to you as existing in this case at present, with only a slight posterior displacement, and he is at a loss to account for her misfortune. But the real cause of all was that, at the beginning of pregnancy, the uterus was lying a little posterior to a line running perpendicularly through the center of the woman's body; and you will almost invariably find that the slightest displacement posterior to this line will cause a miscarriage at the third month. Now, this exists in this woman at present, and it may possibly be the cause of her miscarriages; but before deciding I will examine her husband also. If I find that he has had constitutional syphilis, I will say that I do not know whether this displacement of the uterus is the main cause or not; but I will first remedy the condition I find already existing in the woman, and then I will treat the husband for syphilis, if I find it necessary, and I will try to keep him and the woman apart for a number of months, until I think he is entirely well and can impregnate his wife without transmitting the disease to the child. Even if I find syphilis in him, I will nevertheless treat the difficulty I find in her at the same time.

After the woman has again become pregnant I would watch her carefully as she advances, and have her come to me every four or five days or, at the longest, once a week, that I might see if every week of utero-gestation was increasing the displaced condition of the uterus. If, by the

end of the second month, I should find it bent farther backward than at the end of the first month, I would place the patient on her side or in the knee-chest position, and, with my fingers, push the uterus over into its proper place, and put in a pessary to keep it in position. Supported in this way, the uterus is able to rise up out of the pelvis as it enlarges, and pregnancy is therefore allowed to go on. If you try this plan of treatment in such cases you will often have reason to feel well satisfied with the results.

Let me tell you of a case I treated some twenty-five years ago. A lady came to me who said that she had had twelve miscarriages in succession. I examined her, and found just such a condition as we have in this case. None of the doctors who had previously examined her had discovered the presence of this displacement, because she had gone to them after each miscarriage, when the uterus had returned to its proper position. She was almost insane from these repeated disappointments. So, after she had again become pregnant, she came to me at the end of the third month of gestation, and I easily recognized a decided posterior displacement. To remedy this, I pushed the body of the uterus up above the promontory of the sacrum and put in a pessary to keep it there, and I had her return every two or three weeks so that I might adjust the pessary and see that everything was progressing favorably. She was delivered of a living child at full term, and she went on from that time through four successive pregnancies without having a single miscarriage, and this plan of treatment was carried out each time. Now, I do not say that a single case proves the efficiency of this plan any more than that "one swallow makes a summer." But I have had a whole flock of just such "swallows," and they have abundantly established the effectiveness of this treatment. I am talking now, remember, only of miscarriages occurring at the end of the third month, but they will form 75 to 80 per cent. of all the cases you will meet with. The moment I see a woman who tells me that she aborts regularly at the end of the third month, I am so certain of the cause that I say to myself that she has either a slight or a great displacement of the uterus, or else there is syphilis in the family. So, in case I find no displacement of her uterus, I always look carefully for any signs of syphilis in the husband or in the woman herself. And remember, gentlemen, that syphilis sometimes creeps into the system of a perfectly virtuous woman, and no one knows how it got there. Syphilis certainly develops accidentally sometimes, and I think it is a mistake for some physicians, who ought to know better, to laugh at the statement of a man who, when asked where he got his syphilis, says that he caught it from a privy, or in some other unusual way. I see nothing to laugh at in such a statement, and it seems to me that the joke is entirely out of place, for I do not see why the disease may not occur from such exposure. I have known of the case of a sewing woman in this city who became infected with a true Hunterian chancre, followed by a secondary eruption, apparently in the following way: she accidentally pricked herself in the breast with a pin which had probably retained upon it syphilitic virus from the hand of the woman in France who had made it, and who had doubtless just been dressing her chancre previously to stick-

ing the pin on the paper to send to this country, where it was destined to infect her innocent sister.

Now a few words in regard to another class of cases besides those which occur regularly at the end of the third month. In this class the mother passes safely through the early months of pregnancy, but at the end of the seventh month, perhaps, she notices that the movements of the child *in utero*, which have previously been vigorous enough, are now becoming more feeble, and the next day they are feeble still, and so on till in a few days they have ceased altogether, but she goes on to full term and then brings forth a dead child. This thing may have been repeated six or eight times before she comes to you to seek for the cause and its cure. If you examine the placenta at the completion of one of these labors you will almost invariably find that it has undergone a fatty degeneration. The only way of preventing this woman from constantly bringing forth still-born children is to tell her to watch carefully during the latter months of pregnancy, and to let you know as soon as she feels that the child's movements are beginning to lose their vigor, and then you should immediately induce labor and bring on a premature delivery. If it is in the seventh month, you may be able to preserve the life of the child, and your success will be more assured if delivery can be postponed till the end of the eighth month, or for eight and a half months. But the rule should be, the moment you find the child is in danger of death by reason of the degeneration of the placenta, bring on labor.

CASE II.—The next patient is Mrs. A. E., thirty-seven years of age, a native of the United States, who has been married eighteen years, and been sterile all through her married life.

She says that she has been sick for ten years, and she complains chiefly of a tired feeling all over the body, and of general weakness and lassitude, with much pain in the back and neck. She is regular in her monthly periods, but at such times she suffers from pain in the head and breasts. She also has a constant watery looking, but thick and tenacious, discharge from the vagina. She complains of nothing except a pretty severe cough.

Now, without an examination this is a perfect enigma, gentlemen, and so you will find with many, many cases; and, when a man is so squeamish that he thinks it a crime to examine a woman unless he suspects some very serious condition, I do not see how he ever gets on in practice. At one time not long ago, you know, it was generally thought that an unmarried woman ought not to be examined except in very unusual cases; and I am sorry to say that there are still some who carry out this belief, and thereby make themselves responsible for much misery that might otherwise be relieved if the cause were discovered. I constantly am making such examinations in young women of sixteen and upward, and I never hesitate where I am in doubt as to the cause of any serious difficulty.

This patient is healthy looking, but she has an appearance of lassitude, and she complains of great pain in the back and a sense of discomfort and weariness, which she dates back as beginning ten years ago. In addition, her sterility is a source of disturbance, together with a profuse

leucorrhœa and occasional pain in the head and breast. Now, you might investigate this case, with only the rational signs to help you, for any length of time, without obtaining any light as to the true condition present; but, when you make a physical examination, a flood of light is thrown over it at once.

This is what such an examination reveals: As the woman lies on her back, on passing my finger up the vagina I find the uterus is thrown over backward, and with one finger on the cervix and the fingers of the other hand pressing down through the anterior abdominal walls, I discover a large tumor lying on the upper side of the uterus between its fundus and my hand, which appears to be three or four times as big as the uterus itself, rounded in outline, and moving with the uterine body. How could you ever have told what was there without an examination! The man who would prescribe for that woman without making an examination is one of two things. He is either an ignorant or a dishonest man.

Now that we have found out the presence of a hitherto unsuspected tumor here, the question arises, "Is that the diagnosis?" There is the mass which, when carefully examined, would leave some doubt as to its character did we not have a history to aid us which points to a uterine fibroid. But is that the whole diagnosis? By changing the position of the patient so that she lies on her side, and putting in a Sims's speculum, from the cervical orifice could be seen poured out a secretion of thick, tenacious mucus. I passed a small sponge, held in a pair of forceps, up to the cervix and twisted it about, and, on withdrawing it, I could pull this mass of mucus down to the mouth of the vagina, when it broke and sprang back like a piece of India-rubber. Then I said that is the immediate cause of the sterility, as such discharge always is when it is found habitually pouring out of the cervical canal. This was doubtless caused by the malposition of the uterus, which, from lying back in the hollow of the sacrum, was kept in a state of chronic congestion, giving rise to a chronic endometritis. Now let us return to the tumor and inquire again what it may be. The abdominal walls are so thick that I could not map it out accurately, or tell whether there was any fluctuation in it or not. Now I ask, May this not be an ovarian tumor? As a rule, women with ovarian tumors become greatly exhausted within three years. Yet there are exceptions to this rule. Three months ago I operated at the Woman's Hospital for a tumor which Dr. Sims had, twenty-four years ago, declared to be an ovarian tumor of the size of a cocoanut. When I removed it, it weighed sixty pounds, and the woman got perfectly well after the operation. This tumor had unquestionably been growing for at least twenty-four years. The same week I removed another ovarian tumor that had been growing fifteen years. Fourteen years ago it had been tapped for the first time, and since then this operation had been repeated sixty or seventy times, and finally I removed it after it had been growing for fifteen years. I have frequently removed such tumors after they have been growing for nine or ten years. So this *may* be an ovarian tumor, or it *may* be a fibrous tumor. I should like very much to know which it is. If I should only pass an aspirating needle into it through

the vaginal or the abdominal walls, I might easily make the diagnosis; but if I did this you might, with reason, say that I was inexcusably rash, for an immediate decision of the matter is not necessary, and exposing the patient to danger to solve the problem would be unwarrantable. This woman is already thirty-seven years of age, and she will probably stop menstruating in three or four years, and then the tumor may cease growing, and she may live till seventy years of age without suffering any harm from its presence.

I talk about this so fully because I have seen so many bad results come from aspirating merely for the purpose of diagnosis. Even the smallest hypodermic needle has its dangers when used in this way. In case there was any necessity for making an accurate diagnosis, I would not hesitate to use the aspirator; but, where nothing is to be gained by the knowledge thus derived, I would avoid the risk.

Now I will tell this patient that the best thing for her is to go home and let herself alone. I will prescribe a bitter tonic, to improve her appetite and increase her strength, for she looks quite bloodless, and she has a small, feeble pulse; and, besides, I will put her on the syrup of the hypophosphites. Then I will tell her to wash out her vagina twice a day, so as to remove this secretion which keeps up a constant irritation in the vaginal canal; and that is all she needs. I would do nothing to favor the occurrence of pregnancy, because I think it is a highly desirable thing that she should not become pregnant, on account of the size and situation of this tumor, which would interfere with the proper development of the uterus.

It is a good rule to guide you always, when you are in doubt as to whether you had better risk any doubtful proceeding, to suppose your mother, or sister, or wife in the same position as the patient, and then do for her just what you would for one of them under corresponding circumstances. Now, I don't think, if this patient were a valued relative, you would plunge an aspirator into that tumor just to determine its character, when you could do nothing more to help her if you knew its true nature. I think there would be fewer accidents if men would remember and follow the rule I have just given you.

SUPRACRURAL LITHOTOMY.—At a meeting of the Société de Chirurgie ("Revue de chirurgie," Nov., 1883) M. Després reported that he had recently removed a phosphatic calculus, weighing 145 grammes, from the bladder of a young man, according to the method practiced by Roussel, the first French surgeon who performed the high operation. M. Després maintained that the peritonæum could be avoided with certainty during the procedure by taking the urachus as a guide, flanked by the two epigastric veins which ramify upon the vesical surface; and that safety in this respect was also insured by carrying the first incision along the linea alba to the extent of from seven to nine centimetres, according to the height of the pyramidalis muscle. In the case related, the patient made a good recovery. M. Sée observed that the indication furnished by the pyramidalis was not to be depended upon, as this muscle was differently inserted in different individuals, and was sometimes altogether wanting. M. Tillaux said that, according to his experience, the more the bladder was distended the larger would be the space left uninvested by peritonæum; the lowest part of the latter might thus be lifted as high as 3-5 centimetres above the pubes. Despite M. Després's opinion, therefore, the bladder should by all means be distended, and distended thoroughly, prior to the performance of hypogastric lithotomy. He totally rejected the guidance of the urachus as dangerous.

Original Communications.

SPINA BIFIDA,
CHRONIC INTERNAL HYDROCEPHALUS,
HYDRORRHACHIS, DOUBLE CONVER-
GENT STRABISMUS, AND
DOUBLE TALIPES VARUS,

*Existing concurrently; an Ocular Demonstration upon the Living Subject of the Communicability of the Fluid in the Sac with that contained in the Ventricles of the Brain, by means of an Instrument of Precision; the Injection of Morton's Fluid, followed immediately by Coma and, four days subsequently, by Death, together with the Post-Mortem Appearances.**

By MILTON JOSIAH ROBERTS, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN THE
NEW YORK POST-GRADUATE MEDICAL SCHOOL; VISITING ORTHOPÆDIC SUR-
GEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND, ETC.

THE case in question is a very interesting one, not only on account of its rather infrequent occurrence, but because of the ætiological, morphological, therapeutical, and prophylactical queries which are inevitably forced upon the mind of the scientific physician whenever he is consulted in regard to anomalies of this kind.



FIG. 1.

The child was about two months of age when I first saw him, and was suffering from a multiplicity of kindred

ailments having a prenatal origin. He was the offspring of a primipara nineteen years old. His paternal and maternal ancestors possessed an average degree of health—in fact, were declared to be unusually healthy. There was no knowledge of the existence of other instances of developmental abnormality in either branch of the family. The mother and father were not related.

About the first of April, 1883, the child came under my observation, the mother having brought it to the school for treatment. The case was transferred from the children's to the orthopædic department by Dr. J. S. McNutt.

Then, and for five months afterward, perhaps the most striking abnormality to be observed when the child was freed of its clothing was the presence of a broad, flat, sessile tumor situated in the mesial line of the back and involving the lower dorsal and lumbar regions.

A very good idea of its general conformation and the appearance of the child as a whole, as presented at that time, can be gained from an examination of Fig. 1, a reproduction, by the Ives process, of a photograph by Mr. James U. Stead, taken April 8, 1883.

The surface of the tumor was flat. Its edges, instead of overhanging the basal margin in the least degree, sloped by a gentle curve to meet the surrounding healthy parts. In outline, it was oblong and curvilinear, having very nearly the marginal conformation of a longitudinal section of an egg, with the broad end placed toward the head of the child. At two or three points, but confined to the face of the cephalic half of the tumor, were to be seen reddened areas of small extent, in the centers of which slight superficial ulceration existed. Between these reddened spots the surface presented a livid or ecchymotic appearance, which gradually faded away toward the sloping margins of the tumor, where its superficies had the semblance of healthy skin.

The slight ulcerations on the surface of the tumor and its peculiar coloring gave the appearance of extreme thinness to the walls in this part, the truth of which was confirmed by palpation. Over the caudal half of the sac and its entire circumferential margin the walls were much thicker and firmer to the touch, and the surface presented the appearance of normal skin.

Upon my first examination the tumor was ascertained to be nine and a half centimetres ($3\frac{1}{2}$ in.) in its longitudinal dimensions, or about one third the distance from the occiput to the coccyx. Its cephalic extremity was broad, and measured five centimetres (2 in.), while its caudal end was narrowed down to two and a half centimetres (1 in.).

Superficial palpation elicited undoubted fluctuation. Upon making deep digital pressure, the vertebral arches seemed to be entirely wanting. In order to test this point more fully, however, I ran my index-finger slowly and carefully down over the line of the spinous processes, and was enabled thereby to appreciate the individual segments of the spine as I proceeded, until I reached the cephalic margin of the tumor. Here

* Read before the New York Academy of Medicine, Section in Obstetrics and Diseases of Women and Children, January 24, 1884.

there was a sudden and entire absence of vertebral resistance, which condition proved to be continuous throughout the longitudinal extent of the tumor. It was now clear that I had to deal with a case where the arches of the vertebrae were absent in the lower dorsal and lumbar regions corresponding exactly with the cephalocaudal limitations of the tumor.

A careful inspection of the child's head at this time showed it to be unduly large, though it was probably not sufficiently so to have at once been recognized as pathological had nothing arisen to attract special attention to it. However, observation having been instituted, it was plain to be seen that its principal diameters—the occipito-frontal, the biparietal, and the trachelo-bregmatic—were in excess of their normal limits. The forehead was markedly prominent. Upon palpation, the membranous area at the junction of the sagittal with the coronal suture was found to be very tense, and far exceeded the limitations normal at the close of the second month of post-fetal existence. The sagittal suture was plainly felt to be open throughout its whole extent, and the posterior fontanelle was still unclosed. The coronal suture was also felt to be open for some distance on either side of the bregma.

It was evident that all these changes were due to distension of the cavities of the brain by an abnormal accumulation of fluid within them, the lesion suppositively being a chronic inflammation of the ependyma, familiarly known under the name of *chronic internal hydrocephalus*. Still more certain was the diagnosis made by the notation of the following facts:

Though the child's appetite was good most of the time, and he nursed regularly from a breast that supplied an abundance of milk, yet he was not so fat as babies ordinarily are. His muscles were flabby, and the general nutrition seriously impaired, the child presenting a somewhat starved appearance. There were no marked cerebral symptoms, such as frequent muscular twitchings, convulsions, etc. Nevertheless, such mild cerebral symptoms as failure to notice his surroundings, difficulty in attracting his attention to any particular object, want of animation, and an unnaturally mature facial expression were observed.

The eyes were affected by *double convergent strabismus*, most marked in the left member. The existence of this condition, in conjunction with chronic internal hydrocephalus, should probably be classed as a cerebral symptom. Apparently there was total loss of vision in the left eye. The pupils were moderately dilated, but responded slowly to light. Dr. George R. Elliott, who kindly made an ophthalmoscopic examination, reports that the veins of the retina in both eyes were considerably dilated and tortuous. There was an absence of pigment in the choroid in the vicinity of the left macula lutea, marking the site of a chronic retinitis. The remaining structures of the left eye and all those of the right appeared to be normal.

Another question now arose, viz., as to whether there was any connection between the fluid in the ventricles of the brain and that contained in the sac of the fluctuating tumor on the lower part of the child's back. An attempt was made to determine this point in the following manner:

With the tips of the first and second fingers of one hand placed over the anterior fontanelle, firm downward (central) pressure was made upon the tumor with the corresponding fingers of the other hand, and it was thought that a wave-impulse could be appreciated by the finger-tips over the bregma. The pressure momentarily interrupted the respiration, but the patient would soon catch his breath, take a deep inspiration, and follow it by a prolonged expiration, after which the breathing would become normal until pressure was again made. Though the perception of fluctuation by palpation was open to doubt, it was believed that a communication between the cerebral cavities and the interior of the sac did exist, and that the bond of union was the dilated central canal of the spinal cord. A probable diagnosis of *hydromyelia* was therefore made.

One more abnormality, *double talipes varus*, completes the list of ailments from which our little patient suffered at the time when I first saw him.

A few days subsequent to the preliminary examination which I have just detailed, I conceived the idea of making use of an instrument of precision for the final settlement of the one open question connected with the diagnosis in this case, viz.: as to the existence or non-existence of *hydromyelia*. It was evident that to rely upon tactile sensibility by placing the finger-tips over the spinal tumor and anterior fontanelle must in all cases be open to serious doubt as to its reliability. It had already been demonstrated in this case to be an imperfect test. The instrument which suggested itself to my mind was the *sphygmoscope* devised and perfected by my friend, Dr. F. P. Stephens (*vide* Fig. 2), whose original article, descriptive of its structure and uses, may be found in the "Medical Record" of September 11, 1880. Upon consultation with Dr. Stephens, he deemed it

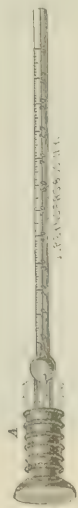


FIG. 2.



FIG. 3.

advisable to modify the base of the instrument in order to secure a better adaptation of it to the surface of the fontanelle.

This was accomplished by removing the tube from the hard rubber base used for the pulse, and attaching to it the bell of a hand cupping-glass. Over the base of this a thin rubber diaphragm was stretched and secured, as shown in Fig. 3. The instrument, thus altered, was easily adjusted to any part of the bregma. A very small quantity of red-colored fluid in the base of the tube formed a liquid cork to the escape of the imprisoned air in the bell-shaped reservoir. It thus served as an exceedingly sensitive index, to point out, on a magnified scale, by its oscillatory movements, the slightest variation in the pressure on the diaphragm.

It was made clearly evident, from a few preliminary tests, that the movements of the head and those of the limbs, as well as the act of crying and the voluntary interference with the regularity of the respirations, on the part of the patient, were grave sources of error, falsifying the record of the index, and must be abolished during the experiment if any reliable data were to be gained by its performance. Accordingly, the infant was profoundly anesthetized. With the subject of the experiment rendered perfectly motionless, and the respiratory movements regular, Dr. Stephens proceeded. Placing himself comfortably, with supports under each arm so as to avoid all possible motion, he held the diaphragm of the sphygmoscope carefully against the anterior fontanelle, while he made pressure on the tumor as desired with the fingers of the other hand. In this position, the child motionless, the respiration regular, and the index at the bottom of the scale, firm downward pressure was made upon the sac. The index then steadily rose to the top of the scale, a distance of a hundred millimetres, and there remained until pressure was removed from the tumor. Though the pressure was suddenly taken off, the index did not fall quickly, but gradually sank to its former position at a little slower rate than it arose.

These observations were considered sufficient to place the diagnosis of hydrorrhachis in conjunction with chronic internal hydrocephalus beyond the possibility of a doubt. They were also believed to demonstrate that the fluid in the sac and dilated central canal of the spinal cord could not be forced through into the ventricles of the brain with sufficient rapidity to create a wave-impulse that could be appreciated by the unaided senses. Indeed, it was thought that to accomplish this in any case the dilatation of the central canal must be excessive and the opening into the ventricles unusually large. Hence the conclusion that in the sphygmoscope we have an instrument of diagnostic importance in many cases of hydrorrhachis. In these experiments Dr. Stephens was assisted by Dr. J. Leonard Corning, Dr. Elliott, and myself.

We have as yet only reached the threshold of a train of interesting questions suggested by this case, but I can only tarry long enough to briefly mention some of them.

First among these is, perhaps, the question of the frequency of occurrence of developmental abnormalities at birth. Our data upon this point are not very satisfactory, but I may say that, counting all external deviations from the normal as deformities, it has been estimated that these cases are met with once in three thousand births. Of course, in this reckoning no allowance is made for visceral malformations.

The ætiology of these disastrous sequences of the perpetuation of the human race is another point of interest which has always had charms for speculative, inquiring, and credulous minds. Of the causes which have been adduced in explanation of their occurrence, probably that of the influence of the maternal mind upon the developing embryo has received more support than all others put together. The sight of unwholesome objects, the witnessing of a tragedy, ungratified maternal longings for some article of food, are a few of the many causes cited by the laity and confirmed by the testimony of many members of the medical profession as capable of perverting the developmental processes. Professor William A. Hammond, in a masterly review of this whole subject of the influence of the maternal mind over the offspring during pregnancy, has expressed the opinion, regarding illustrative examples of this idea cited by him, that "the chances of these instances being due to coincidence are infinitesimally small." *

While freely admitting, in fact urging, that maternal mental influences bear a direct causative relation to the production of some prenatal deficiencies, I am equally positive in the opinion that this theory alone can not account for the occurrence of all the examples met with. The particular case under consideration could scarcely be cited in support of this theory. For, not only does the mother declare that she had no "presentiments," ungratified longings, accidents, etc., during the period of utero-gestation, but she did not even know of the existence of the spinal tumor or other defects until more than two weeks after the birth of the child. We must then search for other disturbing influences in order to offer a rational explanation of the manner in which some of these abnormal physical conditions are brought about. For this purpose let us review very briefly some of the metamorphoses of embryonic life pertinent to the case before us.

One of the very first signs of developmental advancement after the impregnation of the ovarian egg, its division into cleavage-masses (*segmentation*), the separation of the resulting embryogenic tissue into external (*epiblast*) and internal (*hypoblast*) layers, and the formation between these of an intermediate stratum (*mesoblast*), is the appearance of a linear depression on the surface of the blastoderm. From the substance of the mesoblast there grows up along each side of this primitive groove a ridge, which, in its uprising, pushes before it the superimposed epiblast. In the embryo it is normal that the groove thus formed should remain widely open from the time of its formation up to about the fifteenth day of utero-gestation. Shortly thereafter, however, and sometimes even as early as the twelfth day, the process of closure begins, and is first marked by the near approach of the lateral folds in the region of the neck. At a still later period, corresponding to the development attained in the child on the second day, these folds have completely coalesced along the median line so as to form a closed canal. The conversion of the "medullary groove" into the "medullary or neural canal" proceeds from the cephalic toward the caudal end of the embryo. From the inner surface of

* "Journal of Psychological Medicine," vol. ii, 1868.

this canal, throughout its whole extent, a growth of nervous tissue takes place, which ultimately forms the brain (*encephalon*) in the dilated end, and the spinal cord (*myelon*) in the attenuated part of the canal.

As will appear hereafter, it is of interest to note at this point that the whole of the canal is not at once occupied with nervous tissue, but that its lumen is gradually encroached upon with the advancing development of the embryo until about the end of the sixth month of uterine life, when the central canal of the spinal cord is no longer visible as such to the naked eye.

Simultaneously with the changes which have just been described, equally important formative processes have been in active operation elsewhere. A cartilaginous string, known as the notochord, or chorda dorsalis, has been developed along the line of the medullary canal, but immediately beneath it.

It would be interesting to follow closely the further histological differentiation of the embryonal units into their heterogeneous axial and appendicular sequences. Such a course, however, does not fall within the intended limits of my present remarks. Nor can I even attempt a detailed description of the intricate morphological changes incident to the development of the so-called primordial vertebrae, or protovertebral discs, and the reconstructive processes connected with the formation of the permanent spinal segments.

I wish only to state that, for the most part, the notochord appears to serve the function of a developmental guide-post in the construction of the spinal column; for it is around and at the sides of it that the bodies of the vertebrae are formed. From these the pedicles spring and extend upward upon either side of the medullary canal. The laminae, continuous with the pedicles, coalesce over the medullary canal, and are finally capped by the spinous processes.

The chondrification of the vertebral column in the human embryo begins about the sixth or seventh week. It progresses rapidly in the bodies of the vertebrae, but much more slowly in the arches, their coalescence by cartilage not being effected until about the close of the fourth month (Kölliker). Thus it is that the neural arch is formed and the spinal cord completely roofed in throughout its entire length.

The vertebral column, at first cartilaginous, early commences its transformation into bone. Ossific deposits primarily make their appearance in the laminae about the seventh week of prenatal life. A little later—about the eighth week—they are to be found in the middle of the cartilaginous vertebral bodies. It should be borne in mind that the process of ossification in the laminae does not occur in all of them at the same time; it is successional, and proceeds, as did the closure of the medullary groove, from the head, caudad. Not so with the bodies of the vertebrae. Here ossification begins in the middle of the column and proceeds in both directions simultaneously (Quain).

Though the commencement of bony deposits in the spinal column is at such an early period of fetal life, it is not, however, until about the thirtieth year of post-fetal life that the process of vertebral ossification is completed.

With these facts before us, it is plain to be seen that, in

the present instances, whatever caused a cessation of the development of the neural arch in the dorso-lumbar region as soon as the bodies of the vertebrae were formed must have exerted its influence at an exceedingly early period of embryonic life. It must, in fact, have been in active operation as early as the fifth week, probably before the mother suspected she was pregnant, and positively before she could have been at all certain of it. Again, the hydrorrhachis and the hydrocephalus may both be explained upon the supposition that the arrest or perversion of the growth of nervous tissue took place before the normal extent of encroachment upon the lumen of the medullary canal had been reached, thus leaving the central canal of the spinal cord and the ventricles of the brain abnormally large, intercommunicating and occupied by cerebro-spinal fluid.

Lastly, no error in refraction being found upon ophthalmoscopic examination, I think it probable that the double convergent strabismus in this case arose from undue pressure upon some part of the abducens, or sixth nerve, in consequence of the presence of an excessive amount of ventricular fluid. In like manner, pressure upon the lower end of the spinal cord, exerted by the fluid contained in the dilated central canal, may be cited in explanation of the occurrence of the double talipes varus. This latter opinion seems to be the more probable in the light of the fact that in some cases of spina bifida, where the patients have been born with their feet in a perfectly normal position, and remained so during several weeks or months of post-fœtal life, they have acquired talipes coincidently with the rapid enlargement of the spinal tumor, which ultimately took place.

Though the aetiology of developmental abnormalities is as yet wrapped in obscurity, sufficient reliable evidence has already been accumulated to warrant the conclusion that all of them can not be attributed to any one cause; and that, in the prosecution of our aetiological inquiries, we must be on the alert for evidences of primary defect in the sperm or ovum, or both, as well as for the influences, mental and physical, which may pervert the processes of histological differentiation that takes place after the union of the male and female elements.

In the treatment of this case, attention was first directed to the condition of spina bifida. The method which was adopted was that of the partial evacuation of the contents of the sac by means of an aspirator, followed by thorough compression. A gutta-percha pad was adapted to the tumor, and secured in position with a broad belt. At one end of the belt was sewed a tongue of rubber webbing, which, when the belt was applied, was passed through a buckle sewed to the other end of the belt, thus exerting any desired degree of elastic circumferential pressure. For the purpose of utilizing the force of gravity, the child was furnished with an upholstered wire cuirass, in which it could lie. This was so arranged that, when placed upon a level surface, the cephalic end was lower than that of the opposing end. The mother was also directed when handling the child to keep its head upon the same level with the body, or lower, as much of the time as possible. For a time the patient improved; the sac decreased in size, and its walls

were felt to be thicker. Fluid was withdrawn from the sac at intervals of three or four weeks, and the compression continued uninterruptedly for more than four months. On two occasions a galvanic current was passed through the tumor and its contents by introducing into it a needle, all but the point of which was covered with hard rubber, and applying the other electrode over an adjacent indifferent point on the body. This procedure did not appear to have much effect in exciting inflammatory action. On the occasion of the first application of galvanism, the respiratory and cardiac functions were very seriously interfered with, so that it was not long continued.

After a thorough trial in accordance with the above plan of treatment, finding my patient no better—in truth, on the decline—I determined upon the operation of excision of the sac. It was thought that this operation would even be less serious than that of injecting an irritating fluid into a sac freely opening into the dilated central canal of the spinal cord, and communicating, through it, with the ventricles of the brain.

Upon consultation, however, with Professor James L. Little, it was deemed inexpedient to open the sac, in view of the probable fatal issue of the case. The child's condition was now bad; he did not nurse well, was considerably emaciated, and had recently begun to have convulsions.

The flattering results reported in several quarters from the injection of Morton's fluid seemed to point to this as the only plan of treatment that promised any hope whatever, even of prolonged palliation.

The head of the patient was placed low, so as to avoid any sudden change in the intra-ventricular pressure upon the removal of fluid from the sac. With an aspirator I withdrew 20 c. c. of cerebro-spinal fluid, and began the slow hypodermic injection of the irritating fluid: Iodinii, gr. x; potassii iodidi, 3 ss.; glycerin., 3 j.

I had introduced only ten minims when, to my surprise, my little patient suddenly ceased breathing and the radial pulse became imperceptible. Efforts at resuscitation were immediately begun, which, after a half-hour's anxious and persistent efforts in the use of stimulants and artificial respiration, resulted in the re-establishment of pretty regular breathing, though the child did not regain consciousness. He remained comatose for four days, at the end of which time he died.

The post-mortem was made by Dr. Elliott, assisted by Dr. Roberts. Dr. Elliott's report of the findings is as follows:

INSPECTION.—Body is extremely emaciated; the anterior and posterior fontanelles and sutures adjoining are widely open.

In the dorso-lumbar region of the spinal column, in the mesial line, is an oval tumor, very tense to the touch and distinctly fluctuating.

Its covering varies much in thickness, being in places very thin and translucent, showing plainly the capillary blood-vessels; in other places there is considerable thickening, apparently the result of inflammatory exudation. The thickening is especially marked in the entire circumferential part of the tumor, where there is a thick band of tissue

grading into the sac-wall covering the superficies of the tumor on the one side, and into the healthy skin on the other. Over the surface of the swelling are to be seen cicatricial spots, the result, probably, of superficial ulceration.

Upon opening the sac, it was found to contain 30 c. c. of turbid fluid, which, when subjected to microscopical examination, showed red and white blood-cells and columnar epithelia. Chemical examination gave in addition the normal ingredients of cerebro-spinal fluid.

The inner wall of the sac appeared to the unaided eye like a serous surface with nerve fibers coursing over it. The base of the tumor rested upon the bodies and pedicles of the eleventh and twelfth dorsal and of all the lumbar vertebrae. Lying upon the bodies of the first, second, and third lumbar vertebrae and projecting into the cavity of the sac was found an oval-shaped growth of nervous tissue, the contour of which was identical with that of the tumor in question, but very much smaller. In the substance of this growth were found three different sites of former hemorrhage, each being the size of a pea.

At the upper or cephalic end of the sac there was an aggregation of nerve fibers, which immediately broke up, some of which coursed around the growth at the base of the tumor, traversed the sac-wall throughout its entire extent, and perforated it at its caudal end at various points; other fibers passed directly into the growth, in the substance of which they were lost. From the lower part and sides of the growth nerve fibers appeared to originate and traverse the lower part of the sac-wall, which they perforated similarly to those above mentioned.

Careful dissection at the cephalic end of the sac showed the walls in great part to be lined with the original membranes of the cord, it being possible to separate the pia mater from the dura for a considerable distance at the base and sides. On the sides, however, the pia mater grew very thin and attenuated, and it became impossible to trace it above the line of the transverse processes of the vertebrae. At the upper part of the tumor cavity the central canal, lying within the aggregation of nerve fibers above named, was distinctly visible, appearing to take origin from the dilated sac. The canal was one sixteenth of an inch in diameter. The macroscopic appearance at the level of the ninth dorsal vertebra, which was normally formed, was that of a tube within a tube with nerve tissue intervening, the external one being formed by the membranes of the cord, the inner, the dilated central canal.

Upon examination of the spinal column, the spinous processes, laminae, and posterior portion of the transverse processes of the eleventh and twelfth dorsal, and those of all the lumbar and sacral vertebrae, were found wanting. Permission to examine the cord above or to make a more complete autopsy could not be obtained.

In making a retrospective survey of a case like the foregoing, the query very naturally suggests itself, Could these embryonic defects have been prevented? Or, to make the question more general, Is it possible under any circumstances to prevent developmental deficiencies? This opens a very wide and inviting field for speculation and experimental research. The limits of this paper, however, only

permit me, in conclusion, to express the opinion that already sufficient facts have been carefully observed and recorded to make an affirmative answer to this question highly probable.

THE PRESENT STATUS OF ORTHOPÆDIC SURGERY.

By NEWTON M. SHAFFER, M.D.

TRACING the history of orthopædic surgery from the time of Andry to the present day, we notice that its more important progress has taken place within a very recent period. It will be further noted that America has made by far the most important contributions to, at least, the mechanical element in orthopædic surgery, and that the impetus given to the study of diseased joints and curved spines by American surgeons has influenced the treatment of these diseases and deformities throughout the entire world.

Whether it was Brodie or Harris that first used or pointed out the value of traction in joint disease, or whether the possibility of successfully treating Pott's disease by apparatus was first suggested by English or American surgeons, matters but little from a practical standpoint.

It will probably not be disputed that Dr. H. G. Davis, formerly of New York, conferred a great benefit upon humanity when he gave his perfected apparatus to the world, embodying the principles of traction as applied to joint disease; and, since his day, while various surgeons have from time to time modified and changed Davis's instruments, the Davis principle underlies all of them. His plain and simple directions as to the mechanical principles involved in treatment are followed, more or less in detail, by almost all who treat diseased spines and joints to-day.

Twenty-one years ago, when the writer began the study of orthopædic surgery, there was little to be proud of in its status in the city of New York. At that time a certain prominent surgeon, in speaking to the writer, not only discouraged the adoption of orthopædic surgery as a specialty but predicted that any one adopting it would fail and be called a blacksmith for his pains.

Forty years ago orthopædic surgery did not include joint and spinal disease, but only such deformities as club-foot, wry-neck, knock-knee, etc. Strabismus was classed as an orthopædic condition by Bigelow when he wrote his prize dissertation in 1845—about ten years before Davis gave to the profession his treatment of joint and spinal diseases. After Davis's time, those making any pretense to the treatment of deformities classed joint and spinal diseases as orthopædic; or, at least, their reputations have been due to successes not so much in the field of tenotomy as from mechanical and operative procedures in diseases and deformities of the joints and spine. It is, perhaps, in this latter field that Bauer, Sayre, and Taylor appear to the greatest advantage, and the teachings of these gentlemen, all more or less inspired by Davis, form the foundation of much of the orthopædic surgery practiced in the United States to-day; for, while all must concede the debt owed by orthopædic surgery to Dr. W. J. Little, of London, that eminent writer, the father of orthopædic surgery in Eng-

land, does not include articular disease in his treatises, and, without a full discussion of mechanical and operative treatment of joint disease, no treatise on orthopædic surgery can now be called complete.

It is not intended, however, to make this short note an historical review of orthopædic surgery; it is neither profitable nor necessary to raise points which may involve questions of priority. It is rather the aim of the writer to give a short sketch of what orthopædic surgery is to-day, and what it demands from those who enter upon its study and practice, for orthopædic surgery may now be ranked among the growing and necessary specialties—as a more useful one, indeed, than some which make greater pretensions.

In my lectures at the University Medical College and at the New York Orthopædic Dispensary and Hospital I have ventured to define orthopædic surgery as follows: "That department of general surgery which includes the mechanical and operative treatment of chronic and progressive deformities, for the proper treatment of which specially devised apparatus is necessary."

Whether, therefore, the condition be one of club-foot, joint disease, lateral curvature, or spinal caries, the indications are to be studied, and these indications are to be met from a pathological, anatomical, and mechanical standpoint. To do this the orthopædic surgeon must be fully informed upon general medicine and surgery, and must be prepared to prescribe his apparatus precisely as a general practitioner prescribes a remedy for disease.

In order to satisfactorily carry out the system of prescribing apparatus for deformities, the instrument-maker should be placed in the same category as the pharmacist, and should supply apparatus for deformities only upon a prescription—i. e., a carefully executed diagram of the apparatus needed. But how is an educated orthopædic surgeon to execute this plan? While orthopædic surgery has advanced to the dignity of a well-recognized place in general surgery, the facilities for filling a mechanical prescription are in some respects no better than they were fifty years ago. As a rule, the instrument-maker who now fills the prescription of the orthopædic or general surgeon is not unwilling to treat deformity himself, and it not infrequently occurs that he makes suggestions to the patients that are sent to him. There is, I regret to say, some excuse for this, for it has sometimes happened that the instrument-maker has a better idea of what is needed than the surgeon who sent the patient to him, for the reason that orthopædic surgery is not, as a rule, taught in our medical schools, and the generally lax way in which chronic deformities are referred to leaves the newly fledged graduate utterly unprepared to treat them, especially in a mechanical sense. Nor is it at all unusual for the instrument-maker to be called in a kind of a consultation by the surgeon, to devise some sort of apparatus to accomplish an ill-defined end in a given case of deformity or disease. Still further, there are scattered throughout the country various agents of the prominent instrument-making firms—druggists, for example, who prescribe for the most serious cases in orthopædic surgery and order an apparatus from a distance about which they know little or nothing, except that gained from the cata-

logues. The amount of deformity—not to mention incidental suffering and expense entailed by this system of ignorance and charlatanism—can not be estimated. The writer knows that in a certain city not far from New York an instrument-maker is called in by the surgeons of a certain hospital, and the patient is practically turned over to the mechanic after a diagnosis is made, as if there were something degrading and unprofessional in attending in detail to the mechanical department of orthopædic work.

But it requires education and a long systematic training to make a competent orthopædic surgeon; and more: it requires a peculiar adaptability to successfully prosecute the mechanical detail in any case of orthopædic surgery, even under the best auspices. The orthopædic surgeon should be able, as a matter of education, to make, if necessary, the apparatus which he needs. He should at least know *how* to make it; he should know more than his workman about the various grades of steel, the points where strength is necessary, where lightness may be tolerated without sacrifice to strength, etc.; and, indeed, unless one is willing to master such details and to become a mechanician himself, it is better that he should let orthopædic surgery alone. No man can be a scientific orthopedist, competent to give to his patients the skill which they have a right to demand, who does not become responsible for everything not directly pertaining to the manufacture of the instruments to be used. The day can not be very far distant when the truth of these statements will be recognized; and, while a more comprehensive course of instruction in orthopædic surgery will be demanded, the various public institutions will provide the means by which deformities can be properly cared for.

There seems to the writer to be no reason why the mechanical element of treatment should be ignored because it is so purely objective; nor can he imagine that a disease or a deformity essentially painless in its nature, though insidiously progressive in character, should be relegated to an uneducated class simply because death is not imminent. The pathological conditions existing in many cases involving deformity are very serious, and should not be placed in the hands of ignorant or designing men. They can not be successfully handled by even the general practitioner unless he has the time, the ability, the experience, and the patience to follow a case in detail for perhaps two or three years. Success such as ought to characterize orthopædic practice comes only through hard work, patient attention to detail, and a thorough mastery of mechanical surgery.

These matters are, I think, more thoroughly appreciated in New York than elsewhere in this country. When the writer was appointed orthopædic surgeon to St. Luke's Hospital, eleven years ago, it was with the distinct understanding that these principles were to underlie the orthopædic work, and the success of the movement there is greatly due to this provision.

In the New York Orthopædic Dispensary and Hospital there is, in direct connection with the institution, a fully equipped mechanical room in which four or five men are constantly employed making apparatus directly under the instructions of the surgeons; no apparatus is made without

a drawing, and careful measurements accompanied by actual outlines, when necessary, being given with every order; no repairs are made except by personal instruction of the surgeons, accompanied by drawings if necessary. The consequence is that cases are there treated with great satisfaction, and the instrument-makers have there become skilled workmen, some of whom have gone to the aid of orthopædic surgeons in other cities. It is a great pleasure to note in this connection that in another city steps have been taken to introduce the methods of the New York Orthopædic Dispensary into one of the most prominent hospitals and medical schools of the country. The Orthopædic Dispensary of the University Hospital in Philadelphia has, in connection with its service, a fully equipped shop, supplied with steam-power, where the apparatus used is made after the diagrams, and under the direction of the attending surgeon. This change can not but result in good, for reasons that must be apparent to all. It relegates the instrument-maker to his proper sphere, bringing him wholly under control of the surgeon, upon whom it fixes the entire responsibility for the conduct of his cases. No delays are incurred either in making new apparatus or in repairing old ones, and the patients are supplied with apparatus at first cost—an important item when one considers the enormous prices charged by instrument-makers for their apparatus. The fact is, that all hospitals should be similarly equipped with a complete orthopædic department. The expense is not great. Dr. A. Sidney Roberts, formerly an assistant surgeon to the New York Orthopædic Dispensary and Hospital, and through whose personal exertions the orthopædic shop of the University Hospital was organized, informs me that the entire cost of the same did not exceed \$2,000, which includes a building erected for the purpose, and that the shop is now nearly self-sustaining—actual cost of production only being charged to those patients who were able to pay it. This is certainly a good exhibit, and confirms our experience at the New York Orthopædic Dispensary. The great advantage it will confer upon the institution, the surgeons, and the patients, leads to the hope that other colleges and hospitals throughout the country may be led to adopt the same plan, and thus, while extending to a large class of sufferers all the benefits of a thorough, systematic, and scientific treatment, aid in placing orthopædic surgery in its proper status before the profession at large.

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF HÆMORRHOIDS.

By JOHN HARVEY GIRDNER, M.D.

THE last six to eight inches of the large intestine composes the rectum, and, like the remainder of the gut, is made up of four coats. If we remove a healthy rectum from a body recently dead and make a section through its walls in the long diameter of the gut, we shall find that the cut edges present the following characteristics: The most external of the four layers forming the wall is a serous membrane, derived from the peritonæum; the next layer we come to, passing inward, is the muscular, formed of both longitudinal and

circular fibers; the third is the cellular membrane, composed of connective tissue, showing in its midst the hæmorrhoidal vessels and nerves, and serving to connect the most internal or mucous layer with the muscular. The internal or lining membrane of the gut differs in no essentials from other mucous membranes so far as its histological anatomy is concerned. The mucous layer is, however, more abundant than any of the others; that is, if the mucous membrane be dissected from a segment of the gut of a known length, it will be found to be longer and wider when compared with the remaining layers from which it has just been removed and which it formerly fitted; in the normal condition this redundancy of the mucous layer of the rectum is compensated for by the former being thrown into folds, and these folds are both transverse and longitudinal, the latter especially in the neighborhood of the sphincter ani. Now, the interposition of the loose cellular tissue between the muscular and this mucous layer permits the latter to be thrown into folds, to be distended, and to slide or be rolled on the muscular coat with facility.

Thus constructed, this gut serves as the exit for the effete contents of the alimentary canal. Now, there are accumulations of fecal matter, large, irregular, hard masses, which lie for hours and days in the upper portion of the rectum just below the sigmoid flexure, awaiting the delayed signal to move on to the outer world. And as they lie in the gut they distend the mucous membrane at the point and press upon the submucous veins, thus more or less completely stopping the return of the blood from the hæmorrhoidal plexus and damming it back in heavy and increasing columns on the veins in the lower portion of the rectum and about the anus. By and by the signal comes for this mass to move, and the process of defecation is begun; by the vermicular motion of the gut, and the pressure of the superimposed viscera brought to bear by bearing-down efforts, this large, hard, irregular mass moves, slowly distending the gut to its fullest and pushing before it the folds of the mucous membrane, and also the blood in the submucous cellular tissue until it arrives near to the sphincter, when that muscle dilates and these accumulated folds of mucous membrane, distended with the blood which has been pressed into them from along the sides of the rectum, pass out of the orifice of the anus, followed by this mass of hardened feces streaked over with the blood from ruptures of small distended vessels along its course. Now the sphincter closes involuntarily and shuts out these tumors and effectually ligates their necks, and we have external piles, which are nothing but bags composed of mucous membrane which has been pushed out before fecal discharges, and filled with connective tissue and distended blood-vessels which have been pressed into them by the same cause from the submucous cellular tissue of the gut.

Just within the sphincter ani the rectum is somewhat dilated, and is much larger than in any other portion; and sometimes when the mass has reached this point there is room enough for it to pass over these folds of mucous membrane and accumulated blood, and then it passes out clear, leaving these tumors on the inside of the sphincter, and we then have internal piles. The ætiology and pathology of

external and internal piles are the same; they differ only in location, and in the fact that one is ligated by the sphincter ani and the other is not.

In an improperly made coat it sometimes happens that the cloth shrinks; this leaves the lining of the skirt too large, and the latter will then hang in a bag below the border of the skirt; this is exactly the condition of the mucous membrane in external piles. If we look at one of these external bags of mucous membrane which has only recently been formed, it will appear of a dark purplish color, and very moist on the surface from transudation of the water of the blood confined within. Cut this tumor open, and it is found to contain distended blood-vessels, either arteries or veins (nearly always the latter), often a nerve or two of considerable size, with a quantity of connective tissue.

If these tumors have existed for a long time, permanently hanging from the verge of the anus, they present a different appearance. Instead of dark purple, they are of a pale color externally, and often their surface is covered with fissures, small ulcers, and fibrous cicatricial thickenings. Cut one open, and the same pale color exists, except in the center of the tumor there is a spot of dark color, shading off to light yellow, and marking the point where a blood-vessel perished, the hæmoglobin of the blood thus staining the surrounding connective tissue. Sometimes the passage of feces causes a rupture of one of these recent tumors, with considerable hæmorrhage from its contained vessel; generally, however, the hæmorrhage is not great, only sufficient to streak the surface of the fecal mass. The depression and shock to the physical, mental, and moral systems in recent cases is sometimes enormous, and can not be accounted for by the amount of blood lost. As I said above, nerves are often found in these recent bags, dragged down like the blood-vessels from their proper places in the submucous cellular tissue, folded upon themselves in these bags, and pressed upon both by the sphincter ani and by the confined blood by which they are surrounded. Here is a clear explanation of this shock; indeed, it would be phenomenal were it otherwise.

How shall we cure our patient? What would we do with the lining of a coat-skirt which hung in a bag below the cloth? The rational thing to do would be to cut off the redundant part of the lining even with the cloth and stitch it to the edge of the same. But we can not do that here, owing to the presence of blood-vessels which, if we cut, might cause dangerous hæmorrhage; we first, then, cut the tumor as near off as we dare, and ligate the remainder with the vessels contained. The ligature, then, first, last, and always. There is one other method, I am informed, which is practiced extensively by a quack in this city, and respectable members of the regular profession have also recommended it, viz.: the injection of these blood-tumors with a solution of carbolic acid or other coagulating substance. However favorable statistics can be shown of the results of this treatment, I do not hesitate to condemn it as exceedingly dangerous, and a man not ignorant of the pathology and anatomical relations of the tumor he deals with is guilty of unnecessarily exposing his patient's life and health by thus throwing a coagulating solution directly

into the circulation. It has been suggested that if a clot should break loose from these injected tumors it would be arrested in the liver, since the hæmorrhoidal veins empty into the portal circulation, and, it being a carbolized clot, would cause no abscess or harm of any kind in that organ, thus making the liver a kind of strainer to clean the clots out of the blood before it goes to the brain or other vital organ; but the hæmorrhoidal veins connect directly with the general circulation by inoculation with branches of the internal iliac, hence there is nothing to prevent a clot which had broken loose from one of these coagula formed by the injection from entering directly into the general circulation and plugging up an artery in the brain, or some other vital organ, which might at once prove fatal.

I do not wish to appear to overstate the case, but recent examination of the anatomy and pathology of the parts under consideration has so impressed me with the danger of these injections that I am earnest in giving it my condemnation.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Pharmacy: designed as a Text-book for the Student, and as a Guide for the Physician and Pharmacist. Containing the Official and many Unofficial Formulas, and Numerous Examples of Extemporaneous Prescriptions. By Edward Parrish, late Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy, etc. Fifth Edition, enlarged and thoroughly revised. By Thomas S. Wiegand, Graduate of the Philadelphia College of Pharmacy. With Two Hundred and Fifty-six Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxiv-17 to 1090, inclusive.

A Manual of Practical Hygiene. By Edmund A. Parkes, M.D., F.R.S., etc. Edited by F. S. B. François De Chaumont, M.D., F.R.S., etc. Sixth Edition, with an Appendix, giving the American Practice in Matters relating to Hygiene, prepared under the direction of Frederick N. Owen, Civil and Sanitary Engineer. Vol. II. New York: William Wood & Co., 1883. Pp. vii-556. [Wood's Library of Standard Medical Authors.]

Fat and Blood: an Essay on the Treatment of Certain Forms of Neurasthenia and Hysteria. By S. Weir Mitchell, M.D., etc. Third Edition, revised, with Additions. Philadelphia: J. B. Lippincott & Co., 1884. Pp. 164. [Price, \$1.50.]

Woman's Work in the Field of Medicine. College of Midwifery of the City of New York. Pp. 54.

Annual Report of the National Board of Health, for the Year ending June 30, 1883. Pp. 102.

Proceedings of the American Society of Microscopists, Sixth Annual Meeting, 1883.

Head Injuries accompanied by Paralysis. A Clinical Lecture delivered at the Bellevue Hospital, by Frederic S. Dennis, M.D., etc. [Reprint from the "Medical News."]

Hysteria: a Study in Psychology. By James Hendrie Lloyd, A.M., M.D., etc. [Reprint from the "Journal of Nervous and Mental Disease."]

The Relation of Dairy Products to Disease. By Hugh Hamilton, M.D., Harrisburg, Pa. [Reprint from the "Report of the Pennsylvania Board of Agriculture."]

Some Recent Progress in Diseases of the Nervous System.

By Talbot Jones, M.D., St. Paul, Minn. [Reprint from the "Alienist and Neurologist."]

Twentieth Annual Report of the New York Society for the Relief of the Ruptured and Crippled.

Fourteenth Annual Report of the Manhattan Eye and Ear Hospital.

The Australasian Medical Directory and Hand-Book. Edited and compiled by Ludwig Bruck. Sidney: "Australasian Medical Gazette" Office, 1883.

Transactions of the American Gynecological Society. Vol. VIII. For the year 1883. New York: D. Appleton & Co., 1884. Pp. 276.

Quarantine. By Walter Wyman, M.D., Surgeon United States Marine Hospital Service. [Reprint from the Report of the Maryland State Board of Health.]

Announcement of the New York Post-Graduate Medical School. Sessions of 1883-'84.

THE ETIOLOGY AND NATURE OF ZONA.—Erb's theory bearing upon these points, which has recently found an advocate in Landouzy, is explained and enforced by Henry Barth, in "L'Union médicale," November 10, 1883. According to Erb, zona is merely the local manifestation of a constitutional malady, derived from an external cause—i. e., the deposition of an infectious germ. This conception, however, applies only to the so-called *spontaneous* zona. It has nothing to do with the *secondary* and *traumatic* forms of the complaint, which, if the theory be accepted, must be regarded as differing essentially from genuine herpes zoster. The facts and arguments relied upon in support of this view may be briefly stated as follows: Spontaneous zona is a disease which, in the vast majority of cases, occurs but once in the same individual. This fact can only be explained by supposing that the organism is so modified by the morbid process as to be incapable of again developing the specific germ. This is what undoubtedly takes place in the case of whooping-cough, of mumps, and of all the other contagious disorders that occur only once, and furnishes a reason why zona should be regarded as of like origin with these. Besides, it is a mistake to suppose that the manifestations of zona are exclusively local. On close observation, the eruption is often found to be preceded by unmistakable constitutional symptoms—sometimes even by well-marked fever, which may last for three or four days. Again, all authors admit that zona is exceedingly apt to become epidemic, especially in large hospitals devoted to cutaneous maladies—a circumstance never hitherto intelligibly accounted for, but which Landouzy attributes to the prevalence of atmospheric conditions favorable to the ripening of the specific germ. The circumstance that the eruption is usually limited to a region supplied by one or more ramifications of a particular nerve does not conflict with the theory under consideration, since the same is true of many specific and constitutional affections, such as parotitis and whooping-cough. Neither can any valid objection be based on the pathological changes which have been observed in this disease. These changes undoubtedly show that the eruption is dependent upon an irritation of the spinal ganglia, but this irritation itself proceeds from an elective influence exerted by the specific germ after it has found its way into the system. In other words, spontaneous zona is essentially a morbid force which has settled upon the spinal ganglia, just as mumps is a morbid force which has settled upon the parotid gland; and the cutaneous symptoms are simply an indirect consequence of trophic disturbance due to an irritation of the nerve-elements. In this way we may account for the non-inoculability of zona, which would be inexplicable if the herpetic vesicles, like the pustules of small-pox and cow-pox, were caused by the elimination of a morbid product.

M. Barth concludes as follows: "These positions, to be sure, are hypothetical, but they rest upon positive facts, and must be admitted to merit our serious attention. Whether destined or not to be finally accepted, one good end will certainly have been gained by their discussion, if it shall serve to establish the distinction, which it is indispensable to observe in considering such questions, between the pathogenic and the ætiological standpoints."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JAN. 26, 1884.

M. PAUL BERT.

It is much to be regretted that the opinions of medical men sometimes seem to have caught their tone from the clink of coin. It is humiliating to reflect that medical testimony in courts of justice is at times given in conformity rather to employers' preferences than to the strictly scientific interpretation of facts. That these dishonorable exhibitions do take place, it can not be denied. We are inclined to believe, however, that they are by no means so common as is generally supposed, and it seems quite certain that, when they actually do occur, they for the most part implicate those who are already of unsavory repute. Unquestionably, it is extremely rare for a member of the medical profession of so exalted a station as M. Paul Bert to find himself in a position where a charge of improper motives can be brought against him with any show of probability.

It looks very much as if M. Bert had laid himself open to the accusation, however. So long as the suggestion came only from this country, where self-interest may be alleged to color our interpretation of his course on the trichiniasis question in the French Legislature, it might not have quite force enough to put him seriously on the defensive; but now it comes from his own countrymen, from the recognized exponents of medical thought in France. In a telling editorial article, the "*Progrès médical*" riddles his argument, and, while not specifically charging him with subservience to improper influences, brings him plump against a dilemma one horn of which is ready to prick the bubble of his scientific ability, while the other bids fair to pin him to a conviction of disingenuousness.

At first we supposed that M. Bert had simply been over-zealous in advocating an opinion which, however at variance with the views of those more capable than himself of knowing the truth in the matter, had really something tangible to support it, and could, perhaps, be backed up by facts that it would be difficult to break the force of at once. But what are the facts? Contrary to the general impression in France, M. Bert suggests that trichiniasis is really not uncommon in that country, and he accounts for the error of those who think differently by maintaining, in substance, that the disease often passes unrecognized, being taken for typhoid fever. Now, we all know that the mistake is liable to be made in individual instances, but it is difficult to understand how a man of any pretension to a logical mind could seriously assert that it was constantly being made on a large scale—on such a scale, indeed, that a disease thought by the whole medical profession to occur seldom or never in France was really common. What a reflection on the diagnostic powers of his countrymen! Year after year they go on mistaking trichiniasis for typhoid fever! Elsewhere errors of this

kind are found out, at least in a few instances; but never by any chance in France! Apart from these reflections, is M. Bert ready to admit that the mortality of supposed typhoid fever is as great in France as it assuredly would be if any considerable proportion of the cases reported were really cases of trichiniasis? Manifestly, either typhoid fever is most murderous in France, or else our French brethren cure their trichinous patients as such patients are cured nowhere in any other part of the world—and, moreover, without knowing what they are achieving. What a blessing it would be for a country really stricken with trichiniasis if the French treatment for typhoid fever were only known there!

It appears that M. Bert is very solicitous for the working class. It will not do, he says, to give them unwholesome food simply because it is cheap. This proposition is, of course, a truism; but to hold it up as representing the facts in the question at issue, and that, too, without evidence enough to turn the heads of an ordinary coroner's jury, argues either a degree of fatuity fatal to his pretensions both as a statesman and as a man of science, or else a spirit that will inevitably consign him to the list of demagogues. He has nothing to oppose to M. Brouardel and M. Grancher's report, he does not contest the Andalusian origin of the outbreak in Malaga, he is silent in regard to Virchow's statement as to the non-occurrence of trichiniasis of American origin in Germany; he deals in nothing but his own assertions. We are told that he was eloquent on the occasion, and that his eloquence was such that the Minister of Commerce forgot to bring M. Brouardel and M. Grancher's official report to the attention of the Chamber, although he is said to have had it in his pocket at the time. This eloquence may be presumed to have consisted chiefly in vehemence, a quality that it is generally safest to smother.

THE PHARMACOPEIA AS A LEGAL STANDARD.

We are not aware that legislative enactment has formally declared in many of the States that the pharmacopeia shall be considered the standard to which all medical preparations bearing the titles given in that work shall conform. It is to be assumed, however, that, in the absence of anything expressed to the contrary, every purchase of such preparations implies the supposition on the part of the buyer that the article conveyed is of the composition and strength directed in the pharmacopeia. When a man buys a quantity of tincture of opium, he expects to get, not merely *some* solution of the active principles of opium in alcohol, but precisely *the* solution designated by that name in the pharmacopeia. So, too, when a prescription is filled, the prescriber's intention and just expectation are defeated if any ingredient differs from what that ingredient is commonly understood to be—if, in the case of an official preparation, it differs from the strength and composition laid down in the pharmacopeia.

In those States where the statutes do not require the strict conformity of drugs to the pharmacopeial standard, it may nevertheless come to be established by judicial decisions that the State intends to enforce such conformity; and decisions to that purpose are all the more likely to be given, it may be sup-

posed, if prosecutions in other States prove successful. It is on account of this moral effect, therefore, quite as much as in the interest of fair-dealing in Massachusetts, that the recent spirit shown by the Board of Health, Lunacy, and Charity of that State in dealing with a number of manufacturing pharmacists of Boston, and the board's success in the prosecutions involved, must be viewed with satisfaction. Not the least gratifying feature of the matter is the fact that the parties who were proceeded against are now reported to have come to the conclusion that it is best for them to pay the fines imposed, rather than contest the matter further, as it seems to have been their first intention to do. They have certainly chosen the wiser part, for their business would most surely have suffered had the profession come to understand that they persisted in defying the authority of the board, and, as a natural inference, that they meant to keep on making and selling inferior preparations.

We are not informed whether or not they have also given up the policy, said to have been resolved upon, of gaining their point in the future by plotting a reconstitution of the board, procuring the appointment of a board more pliant than the one with which they now have to deal. If they have really ever entertained such an intention, it will be well for them not only to refrain from attempting to carry it out, but also to take good care that proof is given of their having renounced it; otherwise, the medical profession will be apt to regard them as persons in whose productions it can no longer feel full confidence. Let this happen to them, and there will be nothing left for them but the nostrum trade.

The Massachusetts board is well entitled to the thanks of the profession throughout the country for the energy it has shown in this matter. As a general thing, there has been a feeling of confidence in drugs of American manufacture, and, as nothing could so surely undermine that feeling as the successful opposition of inculpated men to the operation of the law, so nothing could more strengthen it than their exposure and punishment.

MINOR PARAGRAPHS.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

BESIDES the papers read and the discussions held at the recent meeting of the American Public Health Association, a summary of which we gave our readers at the time, action was taken, in the form of resolutions, intended to advise Congress as to certain legislation considered of importance from a sanitary point of view. These resolutions have now been laid before Congress. One of them urges the advisability of providing for the scientific investigation of the causes of diseases and of the means for their prevention. Another calls attention to the need of devising legislation for the purpose of checking the immigration of insane paupers and criminals. Still another favors the re-enactment of the law of June 2, 1879, to guard against the introduction of infectious diseases.

FORBEARANCE TOWARD PATIENTS.

PATIENTS sometimes fail to carry out to the letter the wholesome injunctions of the code of ethics in regard to their duties toward their medical attendants—for the very good reason that, as a rule, they are wholly ignorant of the code. It happens

occasionally that their conduct is very aggravating, but so strong is the feeling of the necessity of forbearance bred in every regularly trained medical man that it is among the rarest of occurrences for resentment to be shown. No provocation coming from a sick person should be allowed to lead to any show of anger, much less to a blow. We regret to say that a member of the house staff of the Connecticut State Hospital at New Haven so far forgot his decorum recently as to strike a patient, and the patient was a woman. The hospital authorities discharged the young gentleman in dishonor, although the medical board had expressed the opinion that a severe reprimand would be sufficient. It would be hard to show that his punishment was too severe, but it does seem as if there must have been some mitigating circumstances.

THE TRICHINIASIS QUESTION IN CONGRESS.

ALTHOUGH there would be no lack of pretexts for retaliatory legislation founded upon the action of France and Germany in regard to American pork, it seems likely now that moderation will prevail for a time at least. Mr. Dunn, of Arkansas, a member of the Congressional Committee on Commerce, is reported to have said recently that it would be well, he thought—and in so saying he is understood to have shown the feeling of the committee—to do no more at present than take measures for the systematic inspection of our pork, both for the protection of our own people and to destroy the pretext on which the foreign governments concerned base their action. At the same time, he hints that, while the action of the committee will be deliberate, it will be none the less efficacious.

THE "JOURNAL OF CUTANEOUS AND VENEREAL DISEASES."

THIS journal, which was first issued in October, 1882, has now reached the completion of the first volume, including the October, November, and December numbers for 1882, and the twelve monthly numbers for 1883. We have received a bound copy of the volume, the appearance of which is very pleasing. Several months ago we remarked upon the creditable character of the dermatological literature that had emanated from America during the past fifteen years, and it is no more than simple justice to say now that the "Journal of Cutaneous and Venereal Diseases" is doing effective work in keeping that literature up to the standard.

THE MEDICAL SECTS AND THE PUBLIC SERVICE.

A BILL has been introduced into the Senate "to secure to the medical profession equal rights in the service of the United States," and providing that graduates of all legally chartered medical colleges shall be eligible to appointment in the medical corps of the army and navy, etc. Any such action on the part of Congress as this bill implies will prove as inoperative as it is unnecessary, unless, indeed, Congress abolishes the safeguard of the entrance examination.

NEWS ITEMS.

THE CARTWRIGHT LECTURES of the Alumni Association of the College of Physicians and Surgeons will be delivered by Professor Burt G. Wilder, M. D., of Cornell University, in the hall of the Young Men's Christian Association, corner of Fourth Avenue and Twenty-third Street, on the evenings of Saturday, February 2d, Monday, February 4th, and Wednesday, February 6th. *General subject:* Methods of Studying the Brain. (*February 2d:* Limitations of the subject to macroscopic encephalic morphology; methods of regarding the brain based upon its

condition in embryos and amphibia. *February 4th*: Methods of preserving and examining the brain. *February 6th*: Methods of figuring and describing the brain.)

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 22, 1884:

DISEASES.	Week ending Jan. 15.		Week ending Jan. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	0	0	3	0
Typhoid Fever.....	5	2	7	3
Scarlet Fever.....	81	14	67	9
Cerebro-spinal meningitis....	4	4	5	5
Measles.....	52	6	40	4
Diphtheria.....	33	9	36	16
Yellow Fever.....	1	1	0	0

THE MARINE HOSPITAL SYSTEM.—The Senate Committee on Commerce is reported to have acted favorably on an amendment to the shipping bill providing for the abolition of the present system of supporting the marine hospitals by a tax on sailors, and throwing the expense directly on the Government.

THE INDISCRIMINATE SALE OF POISONS is in one respect unrestrained. We allude to poisons for the destruction of vermin. The danger of this laxity was lately shown by the serious poisoning of a family in Louisville by a preparation known as "Rough on Rats."

FAILURE OF A MEDICAL PUBLISHER.—Dr. Edward J. Bermingham, who has been doing a medical publishing business in Union Square, under the firm name of Bermingham & Co., is reported to have made an assignment to Frederick S. Lyons.

THE TRICHINIASIS QUESTION IN CINCINNATI.—The Chamber of Commerce of Cincinnati is said to have voted to memorialize Congress to take prompt retaliatory measures in regard to the prohibition of the importation of American pork into France and Germany.

THE HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.—Up to last Monday, the amount received was \$40,082.03. The books will be kept open until February 15th.

THE NORTHWESTERN MEDICAL COLLEGE.—The secretary of the faculty, Dr. J. P. Chesney, informs us that the Missouri State Board of Health has decided to recognize the diplomas of the college.

THE HARTFORD HOSPITAL.—It appears from the annual report of the Executive Committee that 817 patients were treated during the past year, a daily average of 94. The work of the training school for nurses is said to have been highly satisfactory. Nine pupils were graduated during the year. The new wing, designed for the better accommodation of the pupils in the training school, and for a lying-in ward, is not yet completed, and it is estimated that about \$16,000 more will be needed to finish it.

THE NEW MEDICAL FACULTY AT PRAGUE.—The medical faculty of the new national university at Prague is to be constituted as follows: Descriptive anatomy, Dr. Steffal; pathological anatomy, Dr. Ilava, formerly Klebs's assistant; general pathology, Dr. Spina, of Vienna; physiological chemistry, Dr. Horbaczewski, of Vienna; physiology, Dr. Fomsa, of Kiev; clinical medicine, Dr. Eiselt; surgery, Dr. Veisz; syphilography and dermatology, Dr. Amosky; ophthalmology, Dr. Schobel; obstetrics, Dr. Streng.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 12, 1884, to January 13, 1884:*

BREWSTER, W. B., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect February 7, 1884. S. O. 10, A. G. O., January 12, 1884.

MARINE HOSPITAL SERVICE.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—October 1, 1883, to December 31, 1883:*

BAILLACHE, P. H., Surgeon. Relieved from duty at Cape Charles Quarantine Station, October 13, 1883. Detailed as member of board to examine candidate for promotion, October 30, 1883. Granted leave of absence for thirty days, November 27, 1883.

HUTTON, W. H. H., Surgeon. Granted leave of absence for twenty days, October 1, 1883.

WYMAN, WALTER, Surgeon. Detailed as member of board to examine candidate for promotion, October 30, 1883. To proceed to Norfolk, Va., to investigate the conduct of the Service at that port, December 31, 1883.

LONG, W. H., Surgeon. Leave of absence extended ten days, October 26, 1883.

MURRAY, R. D., Surgeon. To proceed to Ship Island Quarantine Station, October 17, 1883. To inspect sites for quarantine stations, November 30, 1883. Granted leave of absence for twenty days, December 18, 1883.

SMITH, HENRY, Surgeon. Granted leave of absence for twenty-five days on account of sickness, October 13, 1883. Relieved from duty at Norfolk, Va., October 17, 1883. To report to Surgeon Sawtelle, at New York, for temporary duty, November 27, 1883. Relieved from temporary duty at New York and placed on waiting orders, December 31, 1883.

FISHER, J. C., Passed Assistant Surgeon. When relieved by Assistant Surgeon Banks, to proceed to New York for duty, October 29, 1883. Granted leave of absence for thirty days, November 28, 1883.

GOLDSBOROUGH, C. B., Passed Assistant Surgeon. Granted leaves of absence for thirty-two days on account of sickness, October 12, October 20, and November 1, 1883.

IRWIN, FAIRFAX, Passed Assistant Surgeon. To proceed to Norfolk, Va., and assume charge of the Service, relieving Assistant Surgeon Glennan, October 16, 1883.

MEAD, F. W., Passed Assistant Surgeon. To proceed to Portland, Oregon, inspect the Service, and report the condition of Assistant Surgeon Devan, December 5, 1883. To return to station, Port Townsend, W. T., December 18, 1883.

COOKE, H. P., Passed Assistant Surgeon. To proceed to Charleston, S. C., for duty, November 27, 1883.

BANKS, C. E., Assistant Surgeon. Detailed for temporary duty at Georgetown, D. C., October 11, 1883. Granted leave of absence for thirty days, October 12, 1883.

BENNETT, P. H., Assistant Surgeon. Placed on waiting orders, December 15, 1883. Granted leave of absence for thirty days, December 22, 1883. Upon expiration of leave of absence to proceed to Detroit, Mich., for duty, December 29, 1883.

PECKHAM, C. T., Assistant Surgeon. To proceed to Wilmington, N. C., and assume charge of the Service, relieving Past Assistant Surgeon Irwin, October 16, 1883.

DEVAN, S. C., Assistant Surgeon. Granted leaves of absence for ninety-five days, on account of injury and sickness resulting therefrom, November 15, December 5 and 22, 1883.

BEVAN, A. D., Assistant Surgeon. To proceed to Portland, Oregon, and assume charge of the Service, December 29, 1883.

GLENNAN, A. H., Assistant Surgeon. To proceed to New Orleans, La., for duty, October 17, 1883.

WASDIN, EUGENE, Assistant Surgeon. To proceed to Mobile, Ala., for temporary duty, October 11, 1883. To proceed to Galveston, Texas, for temporary duty, November 17, 1883.

Promotions.

BENSON, J. A., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from October 1, 1883. October 4, 1883.

BANKS, C. E., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from November 1, 1883. November 6, 1883.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, January 28th*: Medical Society of the County of New York.

Tuesday, January 29th: New York Dermatological Society (private); New York Surgical Society (private); Medical Society of the County of Onondaga, N. Y.; Jersey City Pathological Society.

Wednesday, January 30th: Auburn (N. Y.) City Medical Association; Medical Society of the County of Gloucester, N. J.

Friday, February 1st: Practitioners' Society (private).

OBITUARY NOTES.

MAGNUS M. LEWIS, M.D., of ALEXANDRIA, VA.—Dr. Lewis died on Sunday, the 20th inst., in his sixtieth year. He was born in Jefferson Co., Va., February 8, 1824, and received his preliminary education in the University of Virginia, where he also took the medical course, but was graduated from Jefferson Medical College, Philadelphia, in 1847. During the civil war he entered the Confederate army as Regimental Surgeon, and passed through the grades of Brigade Surgeon and Division Surgeon up to that of Medical Director, gaining considerable repute as a surgeon. He was a member of the Alexandria Medical Society, the Virginia State Medical Society, and the American Medical Association.

JAMES MOORHEAD, M.D., died on Saturday last at his residence, No. 256 East Thirty-third Street, New York. He was born in County Fermanagh, in the north of Ireland, where he received a classical education, and was graduated from Bellevue Hospital Medical College in 1863. He had an extensive practice, which was to a great degree among the poorer classes, by whom he was much respected. He was a member of the Medical Society of the County of New York, and had been for several years connected with the Board of Health.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

A STATED meeting was held January 8, 1884, ROBERT F. WEIR, M.D., President, in the chair.

MULTIPLE INCISIONS FOR CIRCUMSCRIBED CONTRACTION.—Dr. A. C. POST presented a boy who had received an injury of the palmar surface of the ring-finger of the left hand, the result of which was that the finger was bent at an angle of about 70° or 80°. He operated for the deformity by making a series of transverse incisions, perhaps ten or twelve in number, and subsequently dressing the wounds with subnitrate of bismuth and

applying a metallic splint. The case illustrated the benefit of multiple instead of single incisions.

COMPOUND FRACTURE OF THE HUMERUS, INVOLVING THE SHOULDER JOINT.—Dr. L. A. STIMSON presented a man, thirty-five years of age, who fell two stories, striking his arm, while on the way down, upon a railing, and producing a compound fracture of the upper end of the humerus, communicating largely with the shoulder joint, the wound extending from the coracoid process across the upper part of the arm. The wound was washed with a bichloride solution, one to two thousand, partly closed by sutures, two drainage-tubes were inserted, and antiseptic gauze was applied. The interest in the case was confined to the plaster dressing which was used. It was a combination of plaster dressing upon the arm and a plaster jacket upon the body, united by three iron cross-pieces, which held them so firmly that the patient could be moved or turned in any direction without producing pain. Rapid recovery took place with a movable joint.

SPONTANEOUS DISLOCATION OF THE HIP JOINT OCCURRING IN THE COURSE OF ACUTE ARTICULAR RHEUMATISM.—Dr. STIMSON also presented a woman, thirty-seven years of age, who had an attack of rheumatism in December, 1882. The history of the attack was obscure, but the patient said that many joints were involved, that she remained ill for a long time, and that the deformity occurred as early, at least, as the following April. She finally came to Bellevue Hospital last summer, where Dr. Stimson saw her first in the month of September, and recognized a dislocation of the right hip joint backward upon the ilium. The interest of the case was partly in the rarity of the occurrence, and also in the facility with which the lesion might be overlooked. The subject had been recently written upon by French surgeons, and he had nothing to add except to say that the symptom of sudden cessation of pain, sometimes noted at the moment the dislocation occurred, did not appear to have been present in this case.

EXSECTION OF THE WRIST JOINT.—Dr. A. G. GERSTER presented a patient upon whom he performed excision of the wrist joint November 5, 1883. The patient, a woman thirty years old, had had a severe attack of acute articular rheumatism, which involved nearly every joint of the body, all of which regained their functional ability except the wrist joint, which remained swollen, hot, and stiff. The patient was treated in the medical wards by the use of internal remedies, counter-irritation, and local applications, but without much improvement, and finally she was transferred to the surgical side, where Dr. Gerster found very extensive agglutination of the flexor and extensor tendons in their sheaths, and the hand resembled more a flipper than a hand. With reference to the joint proper, he found evidence of disease of the radio-carpal articulation. The condition of the carpus proper, however, made him anticipate that the carpal joint proper was not involved. On the inner side, moreover, at a point corresponding to the radial artery, a reddened spot appeared on the skin, showing that perforation was imminent. He proposed to the patient to have the joint examined, and, if the condition were such as demanded it, to finally perform excision. She consented to the operation, and Dr. Gerster made a lateral incision upon the ulnar side, intending first to remove the ulna and thereby increase the facility with which the radius could be removed. In other words, he performed Lister's operation. Having excised the carpal ends of the radius and ulna, the wound was closed and capillary drainage established by the introduction of a few strands of catgut. A bichloride solution was applied, and sufficient support was given by the antiseptic dressing to obviate the necessity of using a splint. No fever whatever followed the operation, and on the tenth day, when the dressing was changed, it

was found that primary union of the wound had taken place. The small strips of iodoform gauze placed immediately over the wound were simply colored with blood, but the remainder of the dressing was perfectly clean. Active and passive motion were begun on the second day after the removal of the dressings, and had been continued. The flail-like mobility was considerable after the operation, but this had been improved, and the patient was now able to extend and flex the hand without support; the mobility of the fingers had also improved very much in consequence of careful orthopaedic treatment. Dr. Gerster expected that she would have a tolerably useful hand. The carpal ends of the radius and ulna to a distance of two inches were removed, and the rest of the carpus was allowed to remain. The ends of the radius and ulna which were removed were devoid of cartilage, and the joint contained a small quantity of sero-cheesy pus. The capsule of the joint was infiltrated and thickened; the inner aspect of it was red, giving the peculiar velvety appearance seen in joint disease; and the perforation mentioned as being imminent on the volar side of the joint was found to be due to the burrowing of pus. No examination was made for the tubercle bacillus.

Dr. Post thought it very unusual for such extensive disease of the joint to occur without involving the carpus.

REMOVAL OF THE SUPERIOR MAXILLA: DIVISION OF THE FIFTH NERVE AND MECKEL'S GANGLION BY CARNOCHAN'S OPERATION.—Dr. J. W. HOWE presented a patient with the following history: Her name was Freidman, aged forty-five, a native of Hungary. Twelve years ago, without any appreciable cause, she felt a pain in the region of the lower bicuspid tooth on the right side. The pain gradually increased in frequency and in intensity. It was usually aggravated by exposure to cold and heat. The paroxysms continued up to within three years of her admission to the hospital, varying little in severity. The inferior maxilla was first involved. Three years ago pain appeared in the upper division of the fifth nerve. It started on the slightest provocation. Mastication became so painful that nothing but liquid food could be taken. Laughing, sneezing, swallowing, crying, all occasioned exquisite pain. For a year previous to the operation pain was almost continuous, and there were occasional exacerbations of such severity as to produce delirium. Nourishment could only be taken in small quantities, and, as a consequence, she became emaciated and weak. Dr. Henry Schweig, under whose care she was at this time, informed Dr. Howe that he administered morphine hypodermically, endermically, and by the mouth, with and without atropine, without any alleviation of the pain. He could not administer more than fifteen minims of Magendie's solution without aggravating the mental trouble, so that it was impossible to give heroic doses of the drug. He also tried aconitine without any effect. At Dr. Howe's request, he also tried hypodermics of strychnine and of atropine, but without avail. The galvanic current was also tried for four weeks, with no effect. The only drug from which an appreciable effect could be obtained was nitro-glycerin. This medicine relieved the pain for two or three weeks, and then failed like the other remedies. The doctor then brought her to St. Francis's Hospital, and Dr. Howe performed Carnochan's operation on May 29, 1883, removing the superior maxillary branch of the fifth nerve and Meckel's ganglion. For three days after the operation the patient slept well, and there was little or no pain excepting that which naturally resulted from the operation. At the end of that time she had severe pain in the region of the inferior dental nerve and spasm of the muscles of the affected side. This disappeared and was replaced by a dull pain in the wound and in the ear. A drainage-tube was inserted, and through this a solution of chloral, ten grains to the ounce, was injected twice each day. This re-

lieved the pain. She left the hospital on June 11th, almost entirely free from pain, and able to eat and sleep and to live comfortably. It was now seven months since the operation. She had gained in weight and strength, and was free from pain unless exposed to very sudden changes of temperature. She ate and drank with comfort, and considered herself greatly improved by the operation. Notwithstanding this good result, Dr. Howe was not in favor of the operation, as he thought further experiments with medicines would give the same result, more especially by resorting to the hypodermic injection of strychnine.

DOUBLE GENT VALGEM; OSTEOTOMY BY MACEWEN'S METHOD.

—Dr. W. T. BULL presented a patient with the following history: J. H. H., aged sixteen, an errand boy, was admitted August 15, 1883, with the statement that for the preceding two years both his knees had been growing weaker, knocking against each other while he was walking or standing. This condition had grown much worse during the past four months. His family history was good, and his general health had always been good. When he stood with his knees in apposition, and with his feet as closely approximated as possible, the distance between the internal malleoli was 8.4 inches. When he lay on his back this distance was 9.25 inches. The knee joints were perfectly normal. The internal condyle was elongated. August 24th, at 2:30 P.M., the patient was etherized, Dr. Bull and Dr. Little operating. An incision was made on the inner side of the right thigh, through the skin and underlying tissues down to the bone, according to Macewen's method. The bone was then partially divided by chiseling, the remainder of the bone being fractured by manual force. The small hemorrhage was controlled by pressure. The limb being forcibly straightened, the following dressing was applied: A small peat-bag was placed over the wound, and a full Lister dressing applied from the ankle to the gluteal fold; over this was placed a loose plaster-of-Paris splint. During the operation a stream of solution of salicylic acid was constantly projected over the wound; before applying the dressing the wound was cleansed with a solution of bichloride of mercury, 1 to 1,000. The same operation was then performed on the left leg, and a similar dressing applied. At 7 P.M. the patient had made a good recovery from the ether. He complained of considerable pain in the left foot. This pain increased, and became so severe by 12 P.M. that the splint was cut open and the limb held in position by properly adjusted sand-bags. Five minims of Magendie's solution of morphine were administered hypodermically.

August 25th.—The pain continued. In both feet there was a sensation of numbness, with well-marked signs of retarded circulation. The morning temperature was 99.2° F., the pulse 96. At 12 M. both dressings were removed, and fresh Lister dressings were immediately applied. Long side-splints, reaching from the axilla to the ankle, were applied. The circulation began to improve, and in a few hours was apparently normal. The temperature was 100.8°, the pulse 105. The general condition of the patient was very good.

August 26th.—During the following seven days the patient had a slight evening rise of temperature, with a pulse varying from 90 to 104. The temperature was normal on the ninth day, and continued so during the remainder of the treatment.

September 11th.—The dressings were removed. The original incision was nearly healed. Simple dressing was applied with long side-splints.

September 14th.—A plaster-of-Paris splint was applied from the toes to the groin of each leg.

October 23d.—The splints were removed. The right leg was found to be in excellent position. There was some slight

tendency to a bending inward of the left knee. Rubber bandages were then placed around each knee joint, and the patient was allowed to walk about.

December 15th.—The bowing inward of the left knee was almost entirely rectified by a brace which extended from the sole of the foot to the upper portion of the thigh, with a hinge joint at the knee.

SUBTROCHANTERIC OSTEOTOMY OF THE NECK OF THE FEMUR FOR CONTRACTURE AND ANKYLOSIS OF THE HIP.—Dr. BULL also presented a patient illustrating the result of this operation: Mary C, ten years of age, a native of the United States, was admitted to St. Luke's Hospital, September 14, 1883. She had been healthy until three years and a half old. Then, without an injury, hip-joint disease began to develop on the left side. She was treated for five years at the Hospital for the Ruptured and Crippled. The patient left that hospital when eight and a half years old, with the limb in good position. Very soon afterward, contracture of the hip joint set in, and had increased rapidly during the past six months. On admission, the left thigh was flexed and adducted, so that the patella was situated two inches and a quarter above the opposite patella and outside of the median line of the right thigh. When the patient lay on the back on a table the thigh was ankylosed so as to form nearly a right angle with the longitudinal axis of the body. Except for a very slight flexion of the femur, mobility at the hip was wanting, except when she was under the influence of ether. Under ether a small amount of motion was possible. When she stood erect, the toes of the left foot were about five inches from the ground, and the heel was fully a foot above it. In walking, the patient placed the toes of the left limb only to the floor, and locomotion was performed in a hopping style. The pelvis was very decidedly tilted downward on the left side, and the lateral curvature of the spine was extreme. Motion in the knee joint was perfectly normal. The head of the trochanter on the left side was one inch and a half above Nélaton's line. There was muscular atrophy of the left thigh, which showed a diminution of two inches in circumference.

October 4th.—Tenotomy was performed on the gracilis and adductor tendons, with open division of the fascia and tendons below the superior spinous process of the ilium. The femur was divided just below the trochanter major, and a wedge-shaped piece was removed, the base of which measured half an inch. The Lister dressing and a long side-splint were applied, together with extension.

October 26th.—The wound of the femur was entirely healed, and the other wounds were nearly closed.

November 9th. union of the femur was solid, the left leg being shortened two inches and a quarter.

TRAUMATIC ANEURYSM OF THE VERTEBRAL ARTERY.—The PRESIDENT presented a patient who had had this affection, and remarked that there were ten cases upon record. Of thirty-two cases of wound of the artery collected by Fischer, nine terminated in aneurysm. For the injuries to this vessel the carotid had been tied twelve times with an unfavorable result. In the aneurysmal cases the carotid artery had been tied five times, the patients all dying. Once it was exposed, but not tied, and that patient recovered, but why was not clearly to be seen. In two cases the aneurysm was cured by cutting down, opening the sac, and plugging the opening in the artery. In the patient presented this evening, the aneurysm was cured by digital compression. The man was twenty-eight years of age, and on the 8th of December was struck with a knife half an inch below the lobe of the right ear just behind the jaw, his opponent standing in front of him and holding the weapon in his left hand. Considerable hemorrhage took place, though when the man entered the hospital he was not very much exsanguinated, and,

the bleeding having ceased, an iodoform pad was simply placed over the wound, which was not disturbed until the tenth day, when the dressing was removed and the wound found healed. Forty-eight hours after the receipt of the wound the patient experienced a peculiar sensation in the head, and sudden paralysis developed, involving the opposite arm, from which he had not yet entirely recovered, although there had been marked improvement in this respect recently. After the removal of the dressings a slight swelling at the posterior margin of the sternocleidomastoid muscle and just below the mastoid process was observed. This tumor had a feeble pulsation, which gradually increased up to the beginning of last week, when the signs of an aneurysm were strongly marked over a space two inches in diameter, and a *bruit* was heard. The diagnosis was made positive by pressure on the carotid artery; when this was made upon a level with the thyroid cartilage, pulsations with swelling were not arrested, but when pressure was made on a level with the tubercle of the sixth cervical vertebra, pulsation with tumor was at once arrested, and when the pressure was removed it immediately returned in full force again. The diagnosis was in this way made clear, and was corroborated by his colleague, Dr. Markos. The question was, What should be done? The best suggestions which he had seen upon this subject were those by Holmes in his article on aneurysm, written in 1873. Dr. Weir finally determined, before opening the sac and plugging it, which had afforded the best outcome of treatment, first to apply ice, and, if that failed, to resort to digital compression, because he had found that pressure upward and forward upon the lower portion of the tumor arrested the pulsation. He therefore secured a relay of medical students, and last Thursday, after having used ice for some days without any change in the tumor, he began the treatment by digital compression at twelve o'clock. At two o'clock the pulsations were almost arrested, and at three o'clock they had entirely ceased, but the pressure was kept up lightly until seven o'clock. Since that time there had been no trouble in this region, and the tumor had rapidly subsided. No cerebral trouble ensued during the treatment.

Dr. L. A. STIMSON said he could add one case to the list of unsuccessful ligations of the common carotid artery for wounds of the vertebral artery. The patient was in Bellevue Hospital. He had been wounded by a pistol-ball, which entered the mouth, passed into the left side of the pharynx, and made its exit at the back of the neck. There had been a profuse hemorrhage, but when he saw the case the bleeding had ceased. The hemorrhage recurred the next day, and the common carotid was tied by the house surgeon. The patient died within a few hours afterward. At the autopsy it was found that the ball had passed between the atlas and the skull, and had divided the vertebral artery.

Dr. W. S. HALSTED referred to a case which he had seen at the Chambers Street Hospital. It was one in which the patient had received a stab with a pen-knife between the atlas and the occiput, producing paralysis on the opposite side, and of the muscles supplied by the spinal accessory nerve upon the same side, and the vertebral artery was not injured.

REMOVAL OF LARGE URETHRAL CALCULI BY INCISION THROUGH THE PERINEUM; WEIGHT OF CALCULI 414 GRAINS.—Dr. J. W. HOWE presented a specimen with the following history: An Italian, aged thirty-one, was admitted to the surgical division of St. Francis's Hospital on December 31, 1883. At the age of thirteen he had been troubled with stone in the bladder, which was removed by an Italian surgeon through an incision in the perineum. The wound in the perineum only partially healed, and a fistula remained, through which the urine escaped for several months. Some time afterward the patient passed a small calculus through this opening. The exact time of this occur-

rence the patient did not remember. Shortly after the expulsion of the stone the opening in the perineum closed, and he had no further trouble up to within five years of the date of entrance to the hospital. He then noticed a hard mass in the perineum, which gave him some pain on pressure, as well as pain on micturition. The mass grew slowly, with an increase in the pain. It was easily moved from side to side. A friend advised him to poultice the swelling in the perineum. After following this advice for a few weeks the integument ulcerated, and a calculus of the size of a pigeon's egg was extruded. The patient likened this mass to a piece of hard rubber. From the passage of this stone the patient experienced great relief, and he had no special trouble for four years, when he noticed two protuberances in the perineum, which gave him pain on pressure, as well as pain on micturition. The pain during the passage of the urine was of a burning character, and lasted some time after the urine was voided. There was also considerable difficulty in emptying the bladder. These prominences continued to increase until the patient's admission to St. Francis.

On examination, Dr. Howe found two prominent enlargements occupying the median line of the perineum. They were both easily moved, or rather the tube in which they were contained readily moved from side to side. The upper tumor was about half an inch from the lower and larger one below. They could, however, be drawn together, and by the rough grating their character could be made out. The upper end of the first calculus was situated about three inches and a half from the meatus. The second and larger one extended down to within half an inch of the anus. The patient did not seem to suffer much pain when they were handled.

On Saturday last, the 5th of January, the patient was etherized. The meatus, which was very narrow, was incised so as to admit a No. 18 American sound. Its passage down the urethra was unobstructed until the first calculus was reached. A No. 5 was then introduced, but failed to pass the obstruction. An incision was made in the median line of the perineum, extending from the middle of the upper calculus, at the upper boundary of the perineum, down to within three quarters of an inch of the anus. The upper stone was then pushed into the opening and extracted; the lower one was then removed by completing the incision through the perineal tissues. A further examination showed that the urethra was very much dilated from the lower calculus to the bladder. Dr. Howe first passed one finger in through the neck, and discovered another calculus inside the bladder. He then introduced a second finger along with the first one, stretching the parts easily. A stone forceps was then introduced, and the cystic calculus was removed. The calculus which occupied the anterior portion of the urethra was found to weigh 135 grains (troy). It measured one inch and a half in length, and three quarters of an inch in its broadest diameter. The lower calculus weighed 279 grains, and was one inch and three quarters in length, and one inch and a half in its broadest diameter. The calculus taken from the bladder weighed 395 grains; it was two inches in length, and one inch and one eighth in its transverse diameter. The patient's temperature the night before the meeting was 99.5° F., and he was doing well so far.

Dr. A. C. Post said there was a case on record in which a stone passed spontaneously from the female urethra, and was said to have been as large as a goose's egg. He thought a number of cases of this kind had occurred in both sexes in which stones of very considerable size had passed through the dilated urethra. He was not able to give the particulars of a number of cases occurring in the practice of his son in Beyroot, but his impression was that in some of them the calculi were larger than that presented by Dr. Howe.

NEW YORK NEUROLOGICAL SOCIETY.

A STATED meeting was held January 8, 1884, Dr. WILLIAM J. MORTON, President, in the chair.

NOTE ON THE USE OF THE MENTHOL CONE AS AN ANODYNE.—Dr. E. C. WENDT showed a little contrivance, called by the Germans "*Migräne Stift*," and explained the method of its application and uses. It consisted of a piece of menthol molded into a conical shape and secured in a little wooden box, closed by a cover to prevent evaporation, soiling, and breaking. It seemed to be very little known here, although it was much used abroad, especially for sick-headache. His attention had first been directed to the anodyne properties of menthol by a short notice published in the "*Medical Record*" of April 28, 1883, by Dr. Cammann. That gentleman had recommended an alcoholic solution of menthol (3 j to 3 ss. of alcohol) to be painted over the affected parts. Dr. Wendt had since that time often used this solution, and found it a rather reliable anodyne. Its pain-relieving action was restricted, however, to the slighter ailments, especially those of a neuralgic character. Since his acquaintance with the solid menthol cone he had frequently substituted the direct application of menthol, by means of the latter, for the solution formerly employed. He would admit that the only advantage which the solid cone or pencil had over the solution consisted in the greater simplicity of its application, its ready portability, and the fact that its vapor was not apt to irritate the eyes of susceptible patients. He had repeatedly heard complaints in that direction from ladies regarding the solution, which was obviated by using the cone.

In this country menthol had not yet received that amount of recognition from the profession to which its pain-obtunding properties would seem to entitle it. In fact, little seemed to be known about it, and for this reason Dr. Wendt thought it might not be amiss to quote a descriptive notice which had appeared in the "*Midland Medical Miscellany*" of October, 1883: "*Menthol, or menthylie alcohol, C₁₀H₁₈O, is a crystalline substance, deposited from the oil of peppermint, prepared in China and Japan from *Mentha arvensis*, var. *pipereacens* and *glabrata*."*

It formed the chief ingredient of a much-valued remedy for neuralgia before its nature or source was generally known. Under the name of "*Po-ho-yo*," or *gouttes japonaises*, it had been sold in small bottles, labeled with Chinese characters. It was a white crystalline stearoptene, melting, when pure, at 97° Fahr., and was obtained by the Japanese from the oil of peppermint by submitting it to freezing several times in succession until no more menthol crystallized out. It was also said to be contained in the American and English oils of peppermint, but probably in small quantities only. It was somewhat surprising that the Japanese peppermint-plant, which was grown in England as a curiosity, had not been cultivated in that country as a source of the drug, the supply of menthol being uncertain, the demand great, and the price in consequence occasionally very high. Menthol was said to be sometimes adulterated with crystals of Epsom salts, to which it bore a great resemblance. These, being insoluble in alcohol or chloroform, in which fluid menthol was freely soluble, could easily be detected. Samples of fine crystals sometimes contained some essential oil adhering to them, a fact which must be taken into consideration when the menthol was made into cones or pencils. Menthol was but slightly soluble in water, although imparting a strong odor and taste to that liquid, and was soluble in aqueous alkalies. It was soluble in fixed and volatile oils and in ether.

Although Dr. Wendt's experience with menthol had not yet been a very extended one, it had nevertheless been sufficient to convince him of the utility of the drug in a rather large class of

cases. Thus, as already stated, he had found it a pleasant and reliable anodyne in all the lesser neuralgias, and especially in those so frequently occurring about the face. But it was also serviceable in many painful affections due to inflammatory processes—for example, in mumps, in the cervical adenitis so often accompanying sore throat, and in numerous other affections where pain was a prominent symptom, menthol might be used to advantage. With regard to its topical action, it was similar to that of aconite, over which it had the advantage of not being poisonous. Dr. Wendt remembered one rather striking case of quite severe supra-orbital neuralgia which did not yield to the oleate of aconite, but was much benefited by the menthol. But, on the whole, in violent attacks he had found it almost useless. In typical migraine, for instance, where the pain was at all severe, and in all deep-seated aches, of more than very moderate intensity, it had no appreciable effect, except, perhaps, the indirect psychological action of distracting the sufferer's attention.

Dr. ROBERTS asked Dr. Wendt if he had tried the prolonged application of menthol.

Dr. WENDT said that he had in some cases of hemicrania, though without decided benefit. Nevertheless, the patients experienced a pleasant sensation of coolness of the surface, followed by a feeling of agreeable warmth.

The PRESIDENT asked Dr. Wendt in what sense he used the word anodyne.

Dr. WENDT said, in the usual one of affording relief from pain by blunting sensibility.

The PRESIDENT thought that menthol probably acted more after the manner of counter-irritants, by insuring relief in a reflex rather than directly local way. Mustard was a typical peripheral nerve-irritant, and it seemed to him that the action of menthol could be best explained on the same principle of procuring peripheral nerve-impressions in a reflex way. His attention had first been called to the menthol cone by Dr. Wendt. He chanced to be at the latter's office one day when suffering from a headache. A few strokes of the menthol gave him at once a sense of relief. He felt the effects of the peppermint to be as gratefully cooling as the application, say, of cold metal. In brachial neuralgia, as well as in sciatica, he had been pleased with the good effects of menthol. He thought the drug was deserving of further trials.

DETENTION IN ASYLUMS.—Dr. RALPH L. PARSONS read a paper in which he spoke first of the question whether sane persons were not often improperly or unjustly detained in asylums for the insane; and, secondly, whether many incurable and incurable patients who were now methodically detained in asylums might not advantageously be returned to their relatives, or placed in the care of private families under State supervision.

It was assumed, in the first instance, that the detention of patients, after recovery had taken place, for a longer time than might be required was quite possible, and even probable, in some instances. But he thought that such detentions were not usually of serious import to the patient; that, on the other hand, too early discharge might be more injurious. It was also admitted that maliciously unjustifiable detentions were quite possible, as any other sort of injustice was possible on the part of persons holding positions of power and responsibility. But reasons were urged by Dr. Parsons in support of the belief that such malicious detentions were at least very rare; that sentiments of honor and professional pride were strong deterrents, to say nothing of the great danger of detection in the commission of the wrong, and the ease with which patients who were decidedly insane obtained their enlargement through the intervention of the courts.

Cogent reasons were given why various classes of convalescents ought to remain under asylum care for a period of time after they appeared to be well; as, for instance, when they would be immediately subjected to the exciting cause of their insanity on their return, when the progress toward convalescence had been characterized by relapses, or when dangerous delusions had been entertained and had faded away so gradually that there were difficulties in judging whether they had passed away entirely. But, on the other hand, the discharge of certain uncured curables before they were well was advised, as when, after making a certain degree of improvement, this improvement stopped and the patient seemed to retrograde. It might be safe and highly advisable to discharge some of these patients before they were well.

The major part of the paper was devoted, however, to an advocacy of the discharge of harmless incurables and their return to the care of their friends, or of placing them with ordinary families as borders and in some sort as members of the families. It was maintained by the reader that, however comfortable and happy such patients might appear to be in large asylums, there were many causes of annoyance and discomfort that would not be experienced in ordinary family life; that, notwithstanding the fine buildings they occupied, and their freedom from care, they were still prisoners and exposed to many disagreeable associations and associates. Quotations were made from Dr. Bucknill and from Dr. Maudsley strongly supporting these views.

The question was then considered, what classes of incurables might safely, and with benefit, be released from asylum restraints. It could be said of those only who were quiet and orderly, and required no special attendance or supervision. Habits of industry would be favorable. Whether such patients would do better with their relatives or with strangers would depend on the circumstances of the family, the state of health, the surroundings, the feelings or notions of the patients, etc. It would be found, however, that many patients who would not do well with their own kindred would be happy, contented, and useful with congenial strangers. It would be impossible for the patient to resume his former position and influence in his own family, and hence he would be subjected to irritating restrictions and annoyance there.

As a preliminary measure, a system of legalized furloughs was advocated, to the end that at first the patient might still be under legal restrictions and easily returned to the asylum, if the trial at large should prove a failure. Properly constituted authorities should make the selection of patients for the trial, with the assistance and under the advice of the asylum superintendent. The families in which the patients were to be placed should be selected with great care. While at first there might be found very few suitable families that would assume the charge, it was thought that when a beginning had been made, plenty of suitable homes would be offered. Reference was made to the multitude of respectable and responsible families who took summer boarders for a moderate compensation, and to the probability that some of these families would prefer one or two permanent patient boarders to a number of summer boarders for a short season during the busiest portion of the year. A suitable system of visitation and of reports was advocated. The paper closed with the following summary of conclusions:

"1. That, inasmuch as many recoveries take place in asylums for the insane, it is to be expected that some convalescent patients may at any time be found in the wards.

"2. That, while possibly now and then a convalescent patient may be detained on probation an unnecessary period of time, such cases are not of frequent occurrence, nor important

in their consequences when they happen; and that, when they do occur, the detention is very rarely indeed through criminal intent.

"3. That many harmless incurables are unnecessarily detained in asylums for the insane; that these incurables would be happier in the enjoyment of ordinary family life and associations, and that systematic efforts should be made to secure their enlargement and their establishment under family care.

"4. That, under certain circumstances, curable patients should be removed from asylum restraint and associations while yet uncurd."

The discussion upon Dr. Parsons's paper was postponed until the next meeting of the society.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of December 21, 1883.

The President, Dr. Tyson, in the chair.

FRACURE OF THE BASE OF THE SKULL.—Dr. GUY HINSDALE related the following case: J. H. W., aged fifty, fell on the ice December 8, 1883, striking upon the stone pavement. The blow was received on the left posterior part of the skull. The skin was not broken. Shortly afterward he was admitted into the Episcopal Hospital, totally unconscious; blood was found flowing from his mouth and left ear, and his nose contained clots. His pupils afforded no evidence of his condition, because of iridectomy having been performed on both eyes some years before. He talked incoherently, and his breathing was labored and at times stertorous. Paralysis of the left leg was noted. Blood continued to issue from the left ear, and on the second day the discharge became thin. It continued serous until death, which occurred on the eleventh day. The urine was examined several times, and found to contain sugar in moderate amount, but no albumin; it was passed freely. He never regained consciousness, but became more stupid, and the paralysis of the leg remained. At the autopsy a superficial clot was found over the brain beneath the seat of injury; over the right frontal region there was a very large one beneath the membranes, filling the sulci between the convolutions. This was the result of the counterstroke, the force having been first received at a point diametrically opposite, and fully accounted for the left-sided paralysis. The fracture was slightly over five inches in length, extending from a point in the left occipito-parietal suture, an inch and a half behind the temporal bone, across the suture, through the petrous portion and the auditory canal, close to the inner side of the foramen ovale, toward the foramen rotundum, where it terminated.

NECROSIS OF THE TEMPORAL BONE; ABSCESS OF THE BRAIN.

—Dr. HINSDALE also showed a specimen removed from the body of Margaret P., aged forty-six, who died in the Episcopal Hospital September 21, 1883, after long-standing aural disease. In early childhood she had scarlet fever. This was followed by aural catarrh, and the discharge from the ear continued until her death. She stated that, when twenty-two years of age, a polypus could be seen in her ear, and that it was removed fifteen years ago. Other masses had been removed on three occasions within the past three years. In May, four months before her death, she consulted Dr. Burnett, and at that time her appearance was most wretched—she was extremely weak, pallid, and emaciated. Paralysis of the right side of the face had occurred during the previous winter without the supervention of additional ear symptoms. At the time of examination there was great sensitiveness of the auriculo-temporal nerve, and she complained of intense pain over the right temporal bone. To control this pain, she was accustomed to use morphine supposi-

tories. Examination revealed a mass of granulations filling the entire lumen of the auditory canal, half an inch from the entrance. Late in May a large polypoid mass was extracted. Bare bone was then discovered on the posterior portion of the canal, and the channel was narrowed and blocked with granulations. About two fluidounces of blood escaped after the removal of this mass.

When Dr. Hinsdale saw her at the hospital, in September, she was in a very low state and evidently near her end. Her mind was seriously affected, conversation was impossible, and she groaned with the pain, which large doses of morphine would not altogether control. There was a moderate but constant discharge of pus from the ear, and from a sinus which had formed above the meatus. The whole temporal region was boggy; the probe passed in freely over an inch, and loose particles of dead bone could be felt in every direction. The disease had long been beyond the reach of any remedy, and there was nothing to be done but relieve pain and await her death.

The specimen removed embraced portions of the right temporal, parietal, and occipital bones. Almost the whole of the temporal bone had been destroyed, only the mastoid process and the upper border of the squamous portion remaining; an area of bone an inch and a half by two inches in extent had disappeared entirely. Adjacent to this region, and lying next the middle fossa of the skull, was a brain abscess, the walls of which were greatly thickened. On opening this cavity, about an ounce of thick, yellowish pus was found. A probe reached this cavity easily through the auditory canal and through the sinus above it, and many loose fragments of bone were encountered. The styloid process was found loose, but held in position by the ligaments arising from it. The inflammatory process, in which, of course, the meninges had shared, was not acute; the brain-substance beyond the abscess walls had no unusual appearance, and the left cerebral lobe, with its membranes, was normal.

Dr. C. H. BURNETT said that the great amount of bone tissue destroyed was remarkable. The necrosis seemed to have originated in the tympanic region rather than in the mastoid, and belonged to the class of cases second in frequency, the most frequent being those fatal cases where the bone disease originated in and extended from the mastoid cavity. Extensive granulations in the external auditory canal constituted a very unfavorable feature, as they dammed up the products of inflammation in the tympanic cavity and the mastoid cells, and forced them to break through more important and vital tissues. The case was another example of the evil of neglecting purulent disease of the ear. He would ask whether there had been symptoms of destruction or implication of any of the nerves passing through the cavernous sinus, such as would be shown by alteration in the parts supplied by the oculo-motor, the pathetic, or the ophthalmic nerve.

Dr. HINSDALE replied that no eye symptoms had ever been detected.

PHIBISIS WITH EMPYEMA.—Dr. H. M. FISHER related a case, from notes furnished by Dr. George M. Boyd, the resident physician of the Episcopal Hospital. A man, twenty-one years old, was admitted, March 17, 1883, with the history that he had had a slight cough for a year, but had not been annoyed with it until a month before, when he was seized with severe pain in the left side of the chest, accompanied by chilly sensations and difficulty of breathing. On admission, he presented all the symptoms of left pleural effusion—absence of vocal fremitus, with tubular breathing and bronchophony in the neighborhood of the spinal column on the left side. His chest was tapped on the morning of March 21st, and three points of a semi-purulent fluid were removed. This was followed by great improvement in the symptoms. Three weeks later he left the hospital, con-

trary to advice. He was admitted again April 20th, and stated that, soon after leaving the hospital, the pain in the left side returned, and was followed by dyspnoea. On the 23d paracentesis thoracis was performed by Dr. Henry, fifty-six ounces of fluid being drawn off, and the operation again afforded great relief. A violent fit of coughing followed the withdrawal of the cannula. Before the operation, the heart's apex-beat was found to be immediately below the right nipple; after it, it was found to have shifted to a point an inch to the left of its previous position. May 5th, Dr. Forbes operated, at Dr. Henry's request, making two openings into the left pleural cavity—one at the fifth interspace, the other at the fourth and to the right of the first. Ten ounces of purulent fluid were withdrawn by means of the aspirator, and a soft-rubber catheter was passed in at one of the openings and out at the other. The pleural sac was then ordered to be washed out daily with a solution of corrosive sublimate (one grain to the ounce).

During the summer the patient's general condition seemed to improve for a time; his appetite, however, continued obstinately bad, and he had constipation alternating with diarrhoea. In October it was noted that he was losing flesh and strength rapidly, and that there was much oedema of the feet and legs. During that month diarrhoea became a constant symptom, and death occurred November 22d.

Post-mortem Examination, ten hours after death.—The body was extremely emaciated. The left lung was contracted to about one fourth of its normal size, and contained some cheesy masses in its upper lobe, with areas of catarrhal pneumonic infiltration. The left pleural cavity contained about five ounces of ichorous pus. The parietal layer of the left pleura was so tightly adherent to the chest-wall that it was impossible to detach it without dissection. The pulmonary layer was also tightly adherent to the lung, the lobes of which were firmly matted together by adhesions. The right lung also presented numerous cheesy foci, with large areas of catarrhal pneumonic infiltration. The heart was rather small, and its tissue was pale, but its valves appeared normal. The liver weighed six pounds and six and a half ounces, its tissue was pale, and it had a decidedly waxy appearance. The spleen was much enlarged, and its tissue was firm and of a dusky-red hue. Numerous yellowish-white nodules were seen in it, the largest of which was perhaps of the size of a small pin-head. The kidneys were rather large, their capsules were non-adherent, and their tissue was rather paler than normal. Numerous minute, whitish nodules were also found scattered through the tissue of both kidneys; they appeared somewhat more numerous and larger in the cortical portion, but were also found in the medullary portion. From some of the larger nodules a whitish, puriform substance could be squeezed out with the blade of the knife. With the naked eye the exact nature of the above-mentioned infiltrations of the spleen and kidneys was difficult to determine. Nothing abnormal was noticed in the intestinal tract, except in the ileum, where on an area of intense congestion was noticed about one yard from the ileo-cæcal valve, but no ulceration was anywhere detected.

Dr. Fisher thought the sequence of pathological events had been as follows: 1. Catarrhal pneumonia, with the production of cheesy foci. 2. Scrofulous inflammation of the pleura, with attendant exudation, which from the start was probably more or less purulent. 3. Infiltration of the liver, the spleen, and possibly the kidneys also with amyloid matter. The exact nature of the yellowish-white nodules in the spleen and kidneys being still undetermined, he could not assign to them a positive place in the chain of scrofulous processes, but, from the absence of any macroscopic evidence of embolic infarction, or of any appearance of infarction in the one microscopic section of the

kidney that he had had an opportunity to examine (kindly made for him by Dr. Henry), he would conclude that these also were cheesy foci, and perhaps their production might have nearly coincided in point of time with that of the cheesy foci in the lungs before alluded to.

Dr. SHAKESPEARE said that the specimen was a good example of milary tuberculosis. The small collection in the spleen might be tuberculous, and should have been examined for tubercle bacilli. He alluded to the successful employment of very weak solutions of corrosive sublimate in washing out suppurating serous cavities.

ATHESOMA, DILATATION, AND ANEURISM OF THE AORTA; RUPTURE INTO THE LEFT PLEURAL CAVITY; CONGENITAL DEFORMITY OF THE STOMACH; MALPOSITION OF THE TRANSVERSE COLON AND RIGHT KIDNEY; IRREGULAR SHAPE OF THE KIDNEY; ANOMALOUS ORIGIN OF THE RENAL ARTERIES AND OF THE URETERS.—Dr. J. H. MÜSSER presented a series of specimens from the body of a patient who had been under the care of Dr. Ludlow, in the Presbyterian Hospital, for nasal catarrh. He complained of a slight bronchitis also, but only the nasal trouble was treated. He was a man sixty-three years old, well-nourished, of temperate habits, by occupation a wheelwright, who had had no previous illness. He was under observation ten weeks. The night before his death he slept well until 5 A. M., when he told the night nurse that he was very cold. After being covered, he apparently went to sleep; an hour afterward he was found dead. At the post mortem, twelve hours after death, the abdomen was found moderately distended, with a decided swelling in the right lower quarter, almost filling that area, resonant on percussion. This was found to be due to the cæcum and the transverse colon. The ascending colon extended about half the usual distance in its ordinary course, and then turned at an acute angle into the transverse colon. The latter descended parallel with the former into the right iliac fossa, and thence ran diagonally upward across the abdomen to the usual place of junction with the descending colon. The right lobe of the liver could not be seen until the ribs were removed, when it was found two inches above their margin, and measured only two inches and a half in the nipple line. In the median line this same vertical length was three inches and a half. More of the left lobe was visible than of the right. Along the edge of the left lobe the stomach extended four inches and a half from the median line. It appeared to be small. When removed, it was found to be divided by a constriction five inches from the fundus; from this constriction to the pylorus the measurement was four inches and a half. The cardiac end was much smaller than normal; the walls and the mucous membrane were healthy. The second portion was a mere tube with thick walls. The thickening was due to hypertrophy of the longitudinal muscular layer and to the folds that the mucous membrane was thrown into. These folds were very marked, longitudinal, and congested on their crests. The peritonæum was opaque and thickened. The capsule of the liver was thickened and opaque along the edges of the right lobe. There were cicatrices on the convex surface of the organ, and at one point it was firmly adherent to the diaphragm. Its tissue was firm on pressure and congested. Incipient cirrhosis was noticed at the microscopical examination. The left kidney was found in its normal position. It was much enlarged, being five inches long and two inches thick. Its pelvis was filled with fat. Its substance was pale, and hard on pressure; its cortical portion was contracted, and its capsule was readily torn off. The right kidney was found in the pelvis, at the right sacro-iliac articulation. It was small, irregular in shape, and parallel with the sacrum in direction. The portion dipping downward tapered to a point, being half an inch in width; the upper portion

was two inches wide. Toward the small end of the kidney the hilum divided, one part extending upward for an inch along one side of the organ, the other the same distance on the other side. The renal artery arose from the normal point of origin of the middle sacral. It divided into two branches; one of these, two inches and a half long, entered one lateral hilum (if it could so be called); the other divided at a point two inches and a half from the main trunk, one subdivision entering the remaining lateral hilum, and the other running across the floor of the pelvis to the normal end of the kidney. The ureter arose by three branches—two from the upper end and one from the smaller end.

The left pleural cavity was almost filled with blood, on which the lung was floating. The lateral surface was adherent to the aneurysm. In its removal the collapsed sac was seen on the left side of the vertebral column. The heart was enlarged, especially its left side, weighing eleven ounces and a half. The mitral valves were a little thickened; the aortic were healthy. There was atheroma of the aorta, from its beginning to the celiac axis. A calcareous plate was found in the celiac axis. From its origin to the middle of its transverse portion the aorta was dilated. Opposite the trachea its caliber was diminished almost to the normal size, and at that point there were marked sclerotic changes. At the junction of the transverse and descending portions the lumen was closed again, and it was here that the aneurysm originated. It was of the true variety, and measured five inches and a half in length, and, when distended, twelve inches in circumference. Four false aneurysms sprang from it. The sac had burst behind the pleural adhesions. The vertebrae were not eroded, and, although the sac was in contact with the left bronchus, there was no evidence of decided pressure upon the latter, while the relations of nerves, other vessels, and the esophagus were such that the usual pressure symptoms could not arise. Thus it would be seen that only physical examination could have detected the aneurysm during life, and there was nothing in the subjective symptoms to call attention to the state of the thoracic contents.

CONGENITAL HOUR-GLASS CONTRACTION OF THE STOMACH.—Dr. Musser also showed a stomach that had been removed from the body of a patient who had died of organic heart disease. There was constant vomiting a few months before death, but it was due to the patient's general condition, and not to the gastric changes. Dr. Musser called the condition congenital, because there had been no clinical history to indicate any disease that would account for it. The contraction took place in the center, and was transverse; the peritoneum and the submucous connective tissue were thickened at that point. In front of the constriction the muscular coat was hypertrophied. The mucous membrane was thrown into folds by the constriction.

PLEURO PNEUMONIA COMPLICATED WITH DELIRIUM TREMENS.

Dr. Musser presented this specimen also. It was the lower lobe of the right lung in a state of red hepatization. Almost the whole pleural surface, including the diaphragmatic portion, was covered with recent lymph averaging half an inch in thickness. The tongue of the lung dipping into the space between the diaphragm and the thoracic wall was not solidified entirely. Here the lymph was abundant, and the contiguous portion of the lung was hepatized, as if the inflammatory process had extended near the pleura. The patient had died eighteen hours after his admission into the hospital, of heart-clot. There had been evidence of its formation when he was admitted, and, in addition, he had delirium tremens. The pneumonia was distinctly recognized, but there were no signs of simple or diaphragmatic pleurisy. Extreme distension of the right side of the heart was noticed at the autopsy, on raising the sternum, and especially of the auricle. On opening the heart, hypertrophied from other

causes, the right side was found filled with blood, and an enormous ante-mortem clot twined around the leaflets of the tricuspid valve, and extended through the auricle into the pulmonary vessels. A similar clot was found in the left side of the heart. The kidneys were congested and there was incipient cirrhosis. The man had been on a spree for two weeks, and, five days before admission, he had a severe chill, followed by the symptoms of pneumonia. Two days after the chill the mania developed, and on the day of admission he had been found wandering about the streets. He was forty-one years old.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of December 19, 1885.

WHAT IS MEANT BY NERVOUS PROSTRATION?—Dr. ROBERTS BARTHOW read the following paper:

The popular conception of the condition now known as "nervous prostration" is a state of debility, in which nervous derangements predominate. A man actively engaged in business or in public life presently finds himself unequal to his daily tasks; he suffers odd sensations in his head; his digestion is disordered; he is weak; wakefulness, mental depression, and a thousand and one new sensations of strange character and fearful portent are superadded. The unfortunate subject of these ills now recoils from his work, gives himself up to the consideration of his symptoms, and relaxes his hold on the interests and occupations of his life. All the world declares that he has "nervous prostration," and this explanation satisfies. Physicians say "neurasthenia" or "hypochondria," according to their habits of mind or to their training. Sometimes this condition is called the "American disease." Indeed, there is a general notion, widely prevalent, that neurasthenia is a peculiarly American malady. The late Dr. Beard was the apostle of this dispensation, and he not only was noisy and persistent in his advocacy of that view, but claimed, indeed, to have first clearly defined neurasthenia, and to have classified under this designation the numerous symptoms pertaining thereto. If we can not admit Dr. Beard's claim in its entirety, if we experience repulsion at his tremendous but unconscious egotism, we are still compelled to acknowledge that his work in this connection is the most important that has appeared. He was peculiarly fitted to differentiate this malady by reason of the quickness and acuteness of his intellect, his power of analysis in its subtlest aspects, and his far-reaching, his omnivorous faculty for related facts.

The term *neurasthenia*, advocated by Beard, is by no means of recent origin. The corresponding French word, used in the same sense as we now employ it, has been a stock word of French neurological medicine for fifty years. Under the terms spinal irritation, hysteria, hypochondriasis, the nervous state, etc., symptoms of the same character as those now included in the word *neurasthenia* have been described. Besides the general state, similar derangements of functions of particular organs have been separately considered, as palpitation of the heart, headache, flatulence, impotence, etc. In the word *neurasthenia*—popularly, nervous prostration—the whole morbid complexus is included. The question I have to consider is whether this is a real, a substantive disorder. Are the notions now generally entertained about it founded on a true conception of the condition?

I need not enlarge on the importance of a correct understanding of a morbid state which is supposed to be due to the conditions of modern, especially of American, life. Without stopping now to question the soundness of the prevailing doctrine, I will place before you the clinical history of two cases, representatives of the two types of neurasthenia. These may be designated respectively as the *congestive* and the *anæmic* varieties.

The latter are greatly more numerous, but the former are not uncommon, as Beard admits.

CASE I.—THE CONGESTIVE TYPE.—Mr. —, aged forty-four, president of one of the largest railroad corporations of the West. He is now a robust man, 5 feet 10 inches in height, 196 pounds in weight, and has a very dark complexion, his type of constitution being the so-called bilio-nervo-sanguineous. Beginning his career at an early age in a subordinate position, he has, by the force of a superior intellect and of a physique that no labor could subdue, risen to the highest office, and now controls vast interests. Ambitious, enterprising, resolute, he has carried these faculties into all his work, and has shrunk from no tasks, however severe—from no responsibility, however onerous. As he has risen in position, social engagements have also added to his burdens. His mode of life has changed to some extent. His habits have become more sedentary, although diversified by frequent railroad journeys; the pleasures of the table, including wine-drinking and late suppers, have been more and more indulged in; excessive smoking has been added to these indulgences; and thus, while his physical powers have been slowly impaired by bad hygiene, the demands on his mental powers have increased. Extensive interests, uncertain, often precarious, business arrangements, and the incessant watchfulness required when vast combinations may be wrecked through failure at any point, demand the highest use of every faculty; and thus to work is added worry.

Three years ago Mr. — observed that he was not feeling well, and that he could not work as before. He became dull, especially after meals, had a constant headache, dizziness and throbbing of the temples; he applied his mind with difficulty, and all of the head symptoms were increased by the efforts made; he had a good, rather a keen appetite; a heavily coated tongue, flatulence, constipation, and some colic pains. The bladder was rather irritable, especially at night; sexual inclination had declined with lessened power, and various ill-defined but annoying sensations were felt about the penis, scrotum, and perineum. During the first year the symptoms increased; the attacks of vertigo were sometimes very severe, so that he had to support himself for a moment to save him from falling. On several occasions he became very much dazed, even lost consciousness momentarily, and once wandered some distance from the proper route he was taking. Anomalous sensations of creeping and crawling, coldness and tingling, and often a burning heat, were felt in the scalp; sudden detonation in the center of the head apparently; buzzing and singing in the ears, and very constant headache, were also experienced. In the extremities, the tongue, and the genitals, there were felt peculiar tingling, numbness, coldness, creeping, and similar sensations. During the whole time of the existence of his symptoms Mr. — suffered from depression of spirits, a deep melancholy in fact, and he lived in constant apprehension of failure of mind.

Physicians whom he consulted in the West located the malady in the brain, diagnosed cerebral hyperæmia, the prelude to softening.

When Mr. — came to see me, sixteen months ago, the symptoms just detailed continued, and were rather increased than diminished. The objective examination furnished the following details:

His face is full, the eyelids puffy, and the lower lid swollen into a bag; the conjunctivæ are injected, the sclerotic muddy, and the pupil sluggish in movement. On ophthalmoscopic examination, the fundus is seen to be injected, small vessels prominent, veins swollen. There is no optical defect, except that due to his age. The membrani tympani is also rather deeply red, and vessels too small to be seen under ordinary circumstances are now in view. Hearing is unaffected. Motility, sensibility—the tactile, pain and temperature senses—are unaffected; and the reflexes remain normal, although probably a little sluggish. The electrical reactions are normal.

His tongue is heavily coated, the breath foul. His appetite is good, but a sense of fullness at the epigastrium persists for several hours after meals; acidity and eructations of rather foul gas now and then occur. The stools have the normal appearance—consistence, color, and odor. The urine is copious, acid, specific gravity rather high (1,025 to 1,030), and there are traces of sugar, as is usual under such circumstances.

The action of the heart is good, the pulse regular, the tension of the vessel rather high. The respiratory movements and murmurs are normal. The area of hepatic dulness is rather enlarged, and the splenic dulness seems also to be increased.

Subjectively the following symptoms are experienced: Various strange sensations in the scalp; a persistent headache; blurred vision at times; vertiginous feelings occurring irregularly and of varying severity; dependency, vague apprehensions; fear of places, especially of crowded assemblages; difficulty of deciding questions very trivial or otherwise, in place of former promptness; impaired memory for persons, names, and things.

Notwithstanding this extended list of symptoms, Mr. — did not have an ill look, but, on the contrary, on superficial examination, appeared to be robust. To him and to his immediate family the situation seemed in a high degree alarming. The surrender of his position and his business interests was regarded as imminent. To the apprehension awakened by his head symptoms was added the diagnosis of cerebral congestion, and hence the profound melancholy into which he was plunged.

Commentary.—My conclusion was that the disturbances in the functions of the brain and nervous system were secondary to derangement of the assimilative processes—of the primary and secondary assimilation—and that to the functional disorder thus caused are added the effects of introspection, and the realization by the centers of conscious impressions, to an unusual extent, of ordinary peripheral excitations. My reasons for coming to this conclusion will appear hereafter. The remedies consisted in a careful regulation of the diet, in baths, exercise, in a reduction of the hours devoted to work, but not the cessation of work; in the use of a laxative quantity of sodium phosphate daily, and in the administration of the aqueous extract of ergot, with the chloride of gold and sodium, and a minute quantity of bichloride of mercury. If time and space would allow, the details of the hygienic management—so important in these cases—could very profitably, I think, occupy our attention. But I must pass on to the next case.

CASE II.—THE ANÆMIC TYPE.—Mr. —, aged fifty-seven; lawyer by profession. His type of somatic constitution is the nervo-sanguine; weight, 145; height, 5 feet 9 inches. He has immense mental energy, extraordinary quickness of perception, a capital logical and critical faculty, and fine oratorical power. These native abilities, conjoined with extensive cultivation, soon placed him among the foremost men at the bar of the city where he practiced, and have long maintained him in that position. For many years he has been a dyspeptic, and suffered much from eructations of gas, from acidity, and flatulence. At times—months, even years intervening—he has experienced very severe seizures, accompanied by extreme mental depression, alternating with as extreme mental exaltation. During the past five years he has had two attacks of gout, neither severe nor protracted. During the whole course of his professional life he has sustained no reverses, encountered no other anxieties than those of a successful lawyer, and has been rather singularly free, indeed, from the worries of life. Receiving last summer the nomination as a candidate to an important office, this cultivated gentleman, scholar, and lawyer, this man of nice tastes and high tone, entered on a canvass marked by vituperation and slander to an unusual extent. About the same time some business interests became entangled and caused no little worry. During the campaign he visited some malarious districts and spoke several times at night in the open air. A speaker of great readiness and power, he never suffered from any considerable fatigue after public speaking, and hence he was now surprised to find himself exceedingly tired after even a brief effort. He began to have drenching night sweats, lost his appetite, grew weak, and was compelled to return home. It was then ascertained that he had malarial fever, and was treated accordingly. But at this time, and subsequently, symptoms not necessarily of malarial origin appeared. He became frightfully dyspeptic, had enormous eructations of gas, and very considerable flatulence; his arms and legs had a numb feeling, attended

with "pins and needles"; he walked with some difficulty, partly because of weakness; he was somnolent and slept a good deal, and his spirits were extremely depressed, especially on awaking in the morning. During these periods of depression he was so overwhelmed with despondency that he was apprehensive he would lose his self-control entirely.

When he placed himself under my charge, he had still a slight daily paroxysm of fever, the exacerbation occurring in the morning, but this disappeared in a few days under the action of some efficient doses of quinine. He was very weak, pallid, and emaciated, and slept a good deal of the time. He had no headache; his vision was rather dull, and ideas and speech slow. Every morning on awaking he was profoundly melancholic, and all the annoyances which the campaign had developed were gone over in his mind. He could talk of nothing else—think of nothing else than his ill feelings and the disagreeable political and personal slanders of which he had been made the victim. He complained much of the numbness of his hands, of weakness in the limbs; and he talked incessantly of his depressed feelings. The bladder became irritable, and he was compelled to rise every two or three hours during the night, the urine being acid, and depositing heavily of uric acid. Presently the somnolence was displaced by insomnia, and he slept less and less, and rose in the morning haggard, exhausted, and horribly nervous and depressed. Ordinary hypnotics proved unequal to the effort to force sleep, and increasing doses of chloral became necessary. His mental activity, heretofore so remarkable, declined, and the effort to force his mind to the performance of any work, such as letter-writing, caused a sensation of fatigue. He also became undecided, even in small matters, ceased to have any inclination to go out and mingle with the public, and grew more and more averse to political movements. He reached a point finally when to meet strangers caused him great distress, excited the circulation, and induced a cold sweat.

As it became indispensable that he should resume the canvass, he made a strong effort, and, notwithstanding the fatigue, mental and moral depression, and exposure of public speaking, handshaking, and other matters of political expediency, he actually improved somewhat. The insomnia, irritable bladder, and hypochondriasis, however, continued, but to a less degree. In a few weeks, by means chiefly hygienic, I succeeded in stopping the chloral; natural sleep was resumed, although it remained somewhat fitful. Suitable dietetic regulations, baths, exercise, and medicines, *pro re nata*, removed, or at least greatly modified, the principal symptoms. Two weeks at Atlantic City accomplished no little good, and when he returned to Philadelphia last week he appeared to be nearly his old self.

Commentary. In this case we have exhibited that complexus of symptoms entitled neurasthenia or nervous prostration in its anemic form, produced by several factors—moral and somatic. The moral were very influential, but, unless the conditions producing bodily depression had occurred, the former causes could hardly have effected such results. Long-standing dyspepsia had prepared the way; malarial intoxication and fatigue contributed an important series of changes, and upon this weakened bodily state were precipitated crushing moral influences.

These cases, whose histories I have just read, are typical—each is the representative of a group. The causes are complex; the effects are not limited to one organ, or set of organs, but involve the system in general. To name this malady from the disturbance in one system seems to me an error, unless the definition is sufficiently elastic to include all the functions affected. Neurasthenia names one only of the parts involved. To entitle this the "American disease" is a strange misnomer. It might with more propriety be called the "French disease," for a condition known as "the nervous state," as "nervism," as "neurasthenia," and similar terms, has been recognized and frequently described by French writers from an early period in this century. In France have existed the causes in the most influential form. The frequent political convulsions, the exacting social life of the great cities, and the harassing struggle for ex-

istence inseparable from the state of the great mass of the population, induce—if any mere external conditions can—that which is called nervous exhaustion. There are two factors supposed to be especially influential in this country—work, and our exciting political and social life. I believe that the effect of these is greatly overrated.

The brain, of all the organs of the body, illustrates, in the most perfect manner, that which has been happily styled "the principle of least action." That is, to execute given tasks, it expends the least possible force, or, to express the same idea in another form, its work is done with ease, with the minimum of effort. Given a certain amount of repose—sleep—and supplied with proper nutriment—healthy blood—the brain will do its allotted work continuously during its working—the waking—hours. So far from being injured by severe labor carried on under normal conditions, the brain is improved by it. Mental activity, like muscular exercise, keeps the brain in a healthy state. When, therefore, a man says he is suffering from the effects of mental overwork, I want to know what his vices are. Worry may be one of these. Worry is exhausting. The worries of life do infinitely more harm than the work of life, how onerous soever it may be. The cases I have just read illustrate this.

I deny that life is more exciting on this side of the Atlantic. The one prize of life is money, and to get possession of it is the supreme purpose, to the attainment of which every energy is put forth. Is it less so elsewhere? Who are the peoples that despise money, and make no effort to obtain it? Here life is less exciting, because our political condition is stable, and but comparatively little exertion is required to secure a comfortable subsistence. I am speaking now of the mass of the population, and not of the few consumed by ambition for political and social distinction, or led by a pitiless greed. It is the very ease and luxury of our American life that cause mischief. It is the indulgence in eating and drinking, the abuse of alcohol and tobacco, sexual excesses, sedentary habits, and too luxurious lives generally, that induce the state of the system called nervous exhaustion. If I had time, each of these should be considered in relation to this subject. In the first case I narrated, the pleasures of the table and disordered assimilative functions caused the trouble. In the second case, dyspepsia, malarial toxemia, and unusual fatigue were the pathogenic factors. In both, the effects of these causes were increased by moral influences—in one, the anxieties involved in vast business enterprises; in the other, the excitement of a hot political contest. These moral causes would have had no injurious effect had not the somatic conditions been unfavorable.

I come now to the most difficult part of my subject. I have to answer this important question: Why are the somatic derangements caused by the conditions referred to in some cases accompanied by the mental and nervous symptoms which belong to neurasthenia? Why do some subjects with indigestion and assimilative disorders, or with the results of dyspepsia and malaria, suffer from the derangements of the mental and nervous functions, and not others? I might here take refuge behind an accepted generalization, and say that the presence or absence of the neurotic type of constitution explained the difference in the result. There is aptness in this explanation, but it is not entirely adequate. There is a mental condition of great importance, and, unless we comprehend this, we fail to realize all the possibilities of the nervous side of these cases. I, however, barely hint at the main points, under these circumstances. Besides, I wish to avoid a too metaphysical discussion of the subject.

In the conduct of life, every man who has a position to make or to maintain exerts a certain moral force to hold himself up

to his work. Some men are so happily constituted that they are quite unconscious of the effort, and stand in the front, serenely confident. Others are all the time laboring; they feel it and know it, and are like the soldiers of Thomas's corps at the battle of Chickamauga, who, sorely pressed, now and then looked back, to see whether their grim and resolute commander was still behind them with his invincible courage. Men conscious of the effort making to keep up, need but little excuse to surrender themselves to their sensations. At the present time nervous prostration is much feared; its symptomatology is a common subject of discussion; and hence, familiar with its character, the imagination of a man who is arrested in his career by some of the ailments supposed to belong to it readily supplies the rest. When a man begins the study of his bodily sensations, having a certain model in his mind, he has little difficulty in filling out the details. All the world knows that when the attention is strongly fixed on an organ of the body, functional disturbances of it ensue, and finally structural changes may be induced. No part of the body is without sensation, even in health. To perceive these sensations the attention needs to be withdrawn from external things and concentrated on the part. Thus it is when the subject of neurasthenia pursues his introspection; he becomes conscious of numerous sensations, which, because now felt for the first time, are new. Under these circumstances, also, the seat of conscious impressions becomes more acutely perceptive. Suggestion adds its quota of symptoms.

To the indefinite and multiplying nervous symptoms developing thus subjectively must be added the reflex. Headache, vertigo, *tinnitus aurium*, amaurosis, diplopia, hallucinations and illusions, defects of speech, paralysis, are reflex symptoms on the part of the brain; palpitation, intermittent pulse, angina pectoris, laryngismus stridulus, asthma, are among the reflexes of the respiratory organs and heart; neuralgia, anesthesia, and other disorders of the sensory nerves, and local paralysis, affections of the motor nerves, included among the nerve reflexes, may all be dependent on reflex excitations proceeding from the stomach. Indeed, there is no symptom in Beard's catalogue of those belonging to neurasthenia that may not be due to merely reflex influences having their initial seat in the digestive apparatus. It follows that the term neurasthenia, or its common equivalent, nervous prostration, is either inadequate, or it expresses too much. Inadequate if the complex of symptoms includes the functional disturbances of all the organs affected, expresses too much if the malady is a merely nervous one.

In reply to the question, "What is meant by nervous prostration?" I respond, "A disease usually functional, situated in one or more organs, during the course of which reflex disturbances of the brain occur, and numerous subjective sensations in all parts of the body are realized by the consciousness."

I deny that neurasthenia is a primary nervous affection, or that it is a substantive disease. I hold that it is symptomatic and secondary.

This conception fixed in the mind, the treatment of neurasthenia is successful or unsuccessful according to the measure of our skill in localizing the initial disturbance, and in addressing our remedies to that as well as to the general state.

Dr. MILLS, in opening the discussion, by request of the Chair, said: I understand that Dr. Bartholow denies that a disease exists primarily nervous in origin which can be called neurasthenia. He classes all cases so called under two heads, congestive and anemic, and holds that the symptoms presented are chiefly reflex effects of digestive or other visceral troubles. I have no doubt that many cases are to be thus explained, but we have others in which the cerebral condition is primary. In cases with the symptoms as detailed in the paper, we may perhaps clearly ascribe them to the causes and conditions referred

to by Dr. Bartholow, but other cases may be explained in a different manner.

In individuals whose higher ganglionic centers are so constituted, from bad inheritance or poor training, or both, that they can not bear much strain, when subjected to this strain, these centers exhaust. We have certain functions called organic functions, respiration, vaso-motor action, etc., with centers in medulla oblongata and spinal cord. These functions must be maintained as long as the individual exists. Their centers must be nourished and sustained in a uniform way. Presiding over automatic movements, they must be kept in the highest tone, must have good blood and plenty of it. It is a principle brought out in the paper that local diversion of blood to any one organ or part will take it from other organs or parts; and we may, in accordance with this, have the higher brain diverting blood from the lower, or lower brain from the higher. We have *nervous* symptoms, the result of this over-strain of nerve-centers, and the disturbance of the equilibrium of the circulation, thereby brought about.

I am inclined to differ from Dr. Bartholow, and agree with Dr. Beard as to the propriety of the term "American disease." The social and business exigencies in this country are different, are more taxing than in Europe. In England, for instance, men become mature and enter public life at later periods than here. In France the difference is not so great, but the more absolute division of society into grades and castes prevents too fierce a struggle for high position. Here every man has the chance to rise to the highest position, and men enter especially political life in youth. Americans are not trained for special lines of life-work. They often attempt work too high for their mental powers and break down.

Dr. TYSON: I have many times asked myself the question, "What is nervous prostration?" The answer was always, "It is not a nervous disease, certainly not an organic nervous disease, and probably not a functional one. It is rather a condition of muscular fatigue, and it may be nervous fatigue. Most of the cases are accompanied by digestive derangements, which are responsible for many of the symptoms, most of which are reflex." At the same time, I admit that some of the symptoms are puzzling, and not easily explained. Among these is the pain in the back of the head, often referred to as the result of "nerve tire," and sometimes regarded as an important indication of cerebral disorder, which it is not. In women, uterine derangement is often responsible for the complex symptoms known as nervous prostration.

The point, however, that attracted me in the paper read was allusion to the condition of the urine in one of the cases. It was described as dark brown, of high specific gravity, containing a trace of sugar. I have seen such cases, and think it not unlikely that the apparent sugar reaction is really due to uric acid, which is often abundantly present in these urines of deranged digestion. If we get rid of the excess of uric acid by allowing it to precipitate spontaneously, or precipitate it by the addition of an acid, the sugar reaction with the copper tests does not take place. Other characters of the urine, particularly its dark color and scantiness, are not usual to sugar-containing urine.

Dr. ESKRIDGE: The most important point in the subject is whether the condition called neurasthenia is primarily a nervous disorder, or a disturbance in other parts of the body. I would have been better pleased if Dr. Mills had elaborated more thoroughly his statements as to the organic functions. He said these functions must be well nourished, and that failure in them is due to failure in the upper nervous system. I would have liked if he had gone further in his explanation. Is this failure due to disturbance in the brain and upper portion of

spinal cord primarily, or to failure in other parts of the body? Those who have paid attention to this subject say that breakdown does not occur unconnected with either worry or vice. I have never seen a case from mental over-work alone. In five cases of neurasthenia of which I have notes, one was from sexual excess; two from worry connected with family troubles; another from alcoholic excess, with sexual vices; and the fifth from sunstroke, followed by sexual over-indulgences. In the last case it seemed as if the brain was primarily at fault. It appears to me that nervous prostration, so called, is a depressed condition of the whole system, the trouble manifesting itself as a general nervous condition secondarily, after organs other than the brain have been primarily affected. The therapeutics also favor this view, because the cases are benefited, not by agents addressed to the nervous system alone, but by hygienic and tonic measures.

Dr. GLASGOW: I have come to regard these cases as not nervous in origin, but as largely due to digestive troubles. They are cured by attention to the disordered functions. I have known a short residence in Atlantic City, without any medical treatment, to suffice for a cure.

Dr. BARTHOLOW, in closing the discussion, said: The great question is, Is neurasthenia functional, or does it arise from organic change in the nervous system? I maintain that it is largely reflex, and frequently from gastric disturbance. Neurasthenia in women is associated with an anemic condition and ovarian and uterine disorders. They are pale and weak, and, if they are subjected to any moral or mental trouble, give way; but, if they are well nourished, sustain any kind of shocks without suffering in health.

In regard to the term "American disease," and to the claim that the peculiar conditions of American life are causative of neurasthenia, it will suffice to say that in some of the European states a higher grade of education is maintained than in this country. In Prussia, for instance, every one is taught to read; education is more general than in Massachusetts. The struggle to maintain existence, and hence the demands on the brain, are severer than here, and, although neurasthenia is said to be uncommon, there are diseases similar to that called nervous exhaustion in this country, arising from similar causes.

Worry has been mentioned as a cause of nervous exhaustion; now, worry hurts a man just in proportion to his condition. If he is in good health, or phlegmatic in temperament, the worry may be well borne, but, if he is out of health, worry will have a powerful effect on the nervous system. I do not deny that various causes may produce brain disease, but I deny that the so-called neurasthenia is due to an organic lesion of the nervous system. I maintain that it is part of a morbid complexus; a reflex condition, in large part, of maladies situated in the stomach, the liver, the uterus, or other organs.

(To be concluded.)

Miscellany.

TRACHEOTOMY NOTES.—*Associating Unmistakenly.* An important discovery seems to have been made by Mr. Harold Senior, of the London Chemical Society, to judge from an abstract given in a recent number of the "Lancet" of a paper read by him at a meeting of the Pharmaceutical Society. It amounts to nothing less than that crotonoil may be separated into two different oils by the action of alcohol, one of which is irritating but not purgative, and the other purgative but not irritating. When alcohol of the specific gravity of 0.794 to 0.800 is

added to croton oil in the proportion of seven or more volumes to six, the oil separates into two parts—one of them (the vesicating oil) dissolves in the alcohol, and remains soluble in alcohol in all proportions; the other (the purgative oil) separates, and is then found to have become insoluble in any proportion of alcohol. This insoluble oil is said to be a safe and pleasant purgative, free from any undesirable action, in doses of one tenth to one half a minim, in the form of pills made with magnesium carbonate and extract of henbane as excipients.

Papaïne (Vegetable Pepsin).—Dr. Berthaud advocates ("L'union médicale," November 13, 1883) a vegetable substance called "papaïne" as a substitute for pepsin. Papaïne is a milky juice extracted from the trunk and green fruit of the *Caraca papaya*. This valuable tree is indigenous, according to some, to South America; according to others, to the Spice Islands. It is found in India, in the Mauritius Island, in the Antilles, and in South America. The juice which exudes from the green fruit of the papaya, and even the seeds of this tree, possess valuable vermifuge properties. But the tree is chiefly interesting from the fact that the juice obtained from its fruit, leaves, and trunk contains a considerable proportion of a principle analogous to animal pepsin, to which M. Wurz and M. Bouchut have applied the name "vegetable pepsin." This juice exercises a marked action on muscular fiber, causing its speedy softening and digestion. Even the emanations from the tree are sufficient to produce this singular action on meat. In the countries where the papaya is cultivated the inhabitants suspend in the high branches the meats which they wish to make tender. It is therefore not strange that the idea should arise of making the papaya juice subserve some practical use to mankind. Experiments have yielded the most satisfactory results. M. Wurz, in a report to the Paris Academy of Sciences, in November, 1880, stated that papaïne had dissolved a thousand times its own weight of fibrin, acting with as much rapidity and regularity as animal pepsin. It has been tested clinically as well as in the laboratory, and abundant evidence has been afforded that its action is certain and constant. Its general use would, therefore, prove more satisfactory than that of animal pepsin, much of which, as it is now found in commerce, is comparatively worthless from adulterations. Moreover, according to M. Wurz and M. Bouchut, all nitrogenous foods—milk, flesh, fibrin—are digested in much larger quantity by papaya juice than by pepsin secreted by the stomach; furthermore, the vegetable ferment possesses this great advantage over the animal ferment, that it acts equally well whether in acid, neutral, or alkaline solutions.

Papaïne is indicated in cases of gastralgia, gastritis, dyspepsia, and all affections characterized by perverted functional action of the stomach. In all such cases it is (according to the opinion of Dr. Berthaud) a much more valuable remedy than animal pepsin.

Note on Hyoscyamine.—Dr. R. A. Hayes, of Dublin, Ireland, reports ("Dublin Journal of Medical Science," December, 1883) a case of tremor of the left arm which he treated with hyoscyamine. The patient, when he came under Dr. Hayes's care, had been troubled with this tremor for six months. Eighteen months before it came on he had suffered an injury of the shoulder of the same side. He was given one sixteenth of a grain of hyoscyamine in pill. A single dose daily for two days produced no effect on the tremor. Next day two doses, morning and evening, relieved the tremor in some measure. The following morning a dose of one eighth of a grain was given. Delirium soon supervened, and continued through the day, but the tremor ceased. The next morning one sixteenth of a grain was followed by delirium, which did not completely pass off until the following day; but the tremor was decidedly controlled. The drug was now discontinued, it having completely paralyzed the patient's accommodation and interfered seriously with his sleep. The tremor returned at once, and soon became very marked. Three days afterward the hyoscyamine was resumed in doses of one thirty-second of a grain three times a day. In two days the tremor was lessened; in six days the ciliary muscle had again become paralyzed, and the medicine was stopped at the patient's request, though the tremor was much relieved. The smaller doses, while they did not affect the pupils, paralyzed the accommodation so completely that reading was impossible. It should be stated, however, that, when the administration of hyoscyamine was begun, the patient's eyes had not recovered from the effects of atropine, which had been used to facilitate an ophthalmoscopic examination.

Lectures and Addresses.

LECTURES ON DISEASES OF THE KIDNEYS, DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS.

BY FRANCIS DELAFIELD, M.D.,
PROFESSOR OF PATHOLOGY AND PRACTICAL MEDICINE.

LECTURE VI.

Acute Diffuse Nephritis (continued).

GENTLEMEN: I was speaking to you yesterday of acute diffuse nephritis, and I called your attention to the fact that there were two different classes of cases characterized by different clinical histories. I told you that in the first group of cases the invasion of the disease was usually acute and the symptoms were developed rapidly, and at the same time there was a marked febrile movement.

We now come to the second group of cases of acute diffuse nephritis. In this set the invasion of the disease is not usually acute and well marked, but it is slow and gradual. There are no rigors and no febrile movement, and very often the patient can not tell you the precise day on which the symptoms commenced, for they have begun slowly and gradually, and have increased steadily. In most cases the patients will tell you that they suddenly found they were beginning to lose their appetites and to be troubled with nausea, and some of them with vomiting also, though this is not a constant symptom. They then began to have pain in the back, of moderate intensity, and referred to the lumbar region. This, however, is always a very unreliable symptom, for perhaps half of all patients suffering from any of the ordinary diseases will tell you at some time that they have pain in the back. It is a very common symptom indeed. These patients find also that there is a loss of bodily strength and muscular force, and an indisposition to either muscular or mental exertion, and they do not feel in their ordinary mental or bodily condition. Then they notice, sometimes, at first, or in some cases not until after some time, that their urine is beginning to be diminished in amount, but this diminution does not usually reach any great degree. The patients pass, perhaps, twelve, or fourteen, or sixteen ounces in the twenty-four hours. This urine may be natural in color and appearance, or it may be changed somewhat by the addition of a certain amount of blood. When we come to examine the urine we find that its specific gravity is low, although it is diminished in amount. Albumin is present in large amount, and we also find all sorts of casts present in very considerable numbers.

Dropsy is developed very early in the disease, and it regularly reaches a very considerable degree. If it is confined to the legs, they will become very much swollen, or it may involve the subcutaneous connective tissue throughout the body, and any of the serous cavities besides. The dropsy, then, is the most marked symptom in this class of cases.

Cerebral symptoms are generally almost altogether absent, or they reach no great degree of development. There may be some dyspnoea, but this is not excessive. The color of the patient changes, and the skin and mucous membranes become pale, and this is accompanied by a change in the composition of the blood.

These symptoms may all be developed during the course of a few weeks, and after this they last sometimes for weeks, and sometimes for several months. Then, after this condition has persisted for a number of weeks or months, there may be a gradual improvement in the condition of the patient: the appetite returns, the dropsy diminishes in amount, the urine increases in quantity, the albumin becomes less marked, the casts are less and less numerous, and the patient continues to improve until the dropsy has disappeared and he is able to be out and to go about again. But the anæmia does not disappear at once, but continues for some time after, and there will also be still a moderate amount of albumin and a few casts in the urine. Then, after a still longer time, these symptoms disappear also, and the patient is restored to his natural health.

But in other cases the course of the disease is not so favorable, for it continues to advance and becomes chronic, and then the patients go on and have the symptoms and lesions of chronic diffuse nephritis. This continuance of the disease is often separated from the more acute stage by a sort of interval. That is, the patients first have the ordinary symptoms of acute diffuse nephritis of this particular variety, then, after a time, they get better, the dropsy disappears, and they only complain of feeling a little weak. But some albumin and a few casts usually remain in the urine. In other cases there seems to be an absolute recovery. This freedom from symptoms lasts for several months, perhaps, then the old symptoms come back again, the dropsy, the disturbances of the stomach, and the anæmia, all return and do not disappear again, but go on getting constantly worse and worse, until the patient finally dies at the end of several months. On examining the kidneys of such a patient, you do not find the changes of a simple form of acute diffuse nephritis, but they look rather as if they had originally been the seat of an acute diffuse nephritis which had afterward become chronic. So, after an apparent recovery, you must not be in too much of a hurry to dismiss these patients from your observation, for the symptoms may return after they have been absent for a number of months. Most of the examples of this form terminate in one of two ways—either they end in recovery, or else they pass on into the chronic condition.

The treatment of this group of cases is mainly directed toward diminishing the dropsy, and we may attempt to do this in the same way as in cases of acute parenchymatous nephritis. We may try the effects of cathartics and diuretics, and of sweating the patient, and see if by these means the amount of urine is increased and the dropsy diminished. If no effect is produced within a few days, then stop the treatment and wait a while, then try again, and, when the proper time has arrived, the remedies will act, the urine will increase, and the dropsy diminish or disappear.

Then we have to attend to feeding the patient and to improving the condition of the blood in practically the same way as in acute parenchymatous nephritis. You will observe I have presented to you the symptoms of this set of cases of acute diffuse nephritis as the same as the symptoms of acute parenchymatous nephritis, and it must be confessed that in a large number of cases, during life, we can not distinguish between these two diseases, for the symptoms are the same. Therefore the treatment is the same, and there is very much the same prognosis.

A considerable number of cases of acute diffuse nephritis occur in the course of *scarlet fever*, and thus become a complication of it. But you must remember that, with scarlet fever, acute parenchymatous nephritis is also a common complication. So, when you use the term "scarlatinal nephritis," you must do so remembering that there are these two forms of nephritis which may complicate a scarlet fever, an acute parenchymatous and an acute diffuse inflammation of the kidneys. There are apparently but very few cases of scarlet fever that run their course without the presence of either one or the other of these two forms of renal disease as a complication, and acute parenchymatous nephritis is the more common one, while the acute diffuse inflammation is the less common. There are also some cases of scarlet fever that run their regular course throughout, and you would never suppose that there was any accompanying disease of the kidneys if you did not examine the urine. But yet, when you do examine it, you find some albumin and a few casts, which are evidence of a parenchymatous inflammation. When, however, a diffuse nephritis is present, it does give symptoms, and there are not only changes in the urine, but also constitutional symptoms, varying in severity in different cases.

The precise time in the course of the scarlet fever at which the kidney lesion is developed varies a good deal in different cases, and we are unable to determine this just as we are unable to diagnosticate between cases of parenchymatous and diffuse nephritis. The larger number of these renal complications do not result in the death of the patient, and, as only a moderate number die, we can not determine very often the exact nature of the renal disease. Taking these two sets of cases together, however, it is found that the renal symptoms may make their appearance at any period between the first day of the scarlet fever and the ninth week after the invasion. But the great majority of cases occur on or about the fourteenth day of the scarlet fever, and next in frequency comes the twenty-first day, and next the seventh day. So, if we take all the cases of scarlet fever complicated with renal disease together, in most of them we shall find that the kidney complication is developed either at the fourteenth, the twenty-first, or the seventh day, and the most frequent of these is about the fourteenth day.

These patients give us first the ordinary symptoms of scarlet fever, sometimes severe in form and sometimes mild, for this complication seems to be as apt to occur with mild as with the severe cases of scarlet fever; and then, after the ordinary symptoms of the scarlet fever have lasted it may be for one, two, or three weeks or more, there is noticed a change in the condition of the patient—he is evidently

worse, and a loss of appetite makes itself evident. If the renal disease is not developed until the fourteenth or twenty-first day, then very likely the patient will be feeling better of the scarlet fever, when suddenly rigors appear, and then, if the appetite has returned with the improvement in the scarlet fever, it will now be lost again, and there may be added more or less nausea and perhaps vomiting. In many cases there will at this time be developed a new febrile movement, and, if the fever of the scarlet fever is still continuing, it becomes higher than before, while if it has already reached the normal there will now be an increase of temperature, but the new febrile movement will not be of any great degree of severity. The patients will now begin to complain of pain in the back, and they will become fretful and restless and be unable to sleep well at night, and between these periods of restlessness and sleeplessness they will be unnaturally dull and stupid, and, if it is a grown-up person or a pretty old child, he will complain of headache. In bad cases there may be developed delirium, convulsions, and a very marked stupor, which may go on to complete unconsciousness.

Dropsy is developed, sometimes only to a very moderate extent, and sometimes there is very marked general anasarca. There are the ordinary changes in the blood, and the patient's appearance becomes anæmic. The urine is scanty or absolutely suppressed, it has a low specific gravity and contains some blood, and albumin is present in large amount, and there are numerous casts.

These symptoms, when once developed, last, in most cases, about two weeks, then all the symptoms begin to diminish, and finally they disappear altogether. The changes in the urine, however, continue for a considerable time after the patient has apparently entirely recovered.

The prognosis in most of these cases of nephritis complicating scarlet fever is good, and the patients get better usually after the second week. But sometimes the renal complication will be more severe in character, and prove fatal either at the end of a few days, or perhaps at the end of two or three weeks. Then in still other cases the acute kidney lesion changes into a chronic lesion, and it goes on and develops into a chronic diffuse nephritis.

As regards the treatment of these cases of scarlatinal nephritis, we find that some of them hardly require any treatment at all. The urine is not very much diminished and the symptoms are not very intense, and all that is necessary is to keep the child in bed and keep the bowels open with some simple laxative, and give it only a fluid diet, and then wait quietly for the symptoms to subside. But, in case the symptoms are more severe, it may be necessary to interfere, and we may apply cups or hot fomentations over the lumbar region, or sweat the patient and give more vigorous cathartics, and in some cases it is also necessary to give opium to quiet the extreme restlessness and sleeplessness. Then, when the symptoms subside, if the patient is pretty well nourished, no further treatment is necessary, but there may be a gradual return to animal food, and the opium may be withheld. But, if the patient is not in good condition, then you must look after the general nutrition, and try to improve the condition of the blood in the ordinary way.

Original Communications.

THE DANGER OF
LARGE DOSES OF QUININE.*

By A. A. SMITH, M. D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, AND OF CLINICAL MEDICINE, IN BELLEVUE HOSPITAL MEDICAL COLLEGE.

Is the use of quinine in large doses ever dangerous in hyperpyrexia with tendency to heart failure?

In order that I may not be charged with prejudice in regard to the use of quinine, let me say at the outset: I place it second in importance only to opium, in our armamentarium of drugs, in the treatment of diseases in this region.

It will be admitted that one of the most serious dangers to be apprehended in any disease in which high temperature prevails for a few days is the so-called heart failure. Many observers contend that this heart failure is due to the direct effect of the great heat on the heart muscular tissue, producing in many cases a permanent degeneration, in others a temporary enfeeblement. Other observers consider it due to depression of nerve force, and that no degeneration of heart muscular tissue occurs. It is possible both views are correct. In some cases it may be through the nervous system; in others, and it seems to me the more rare condition, muscular degeneration may occur. If real muscular degeneration does occur, there ought to remain, even if the patient recovers from his attack of fever, permanent enfeeblement of the heart. Whether through the one system or the other, it is of serious import to the patient, for in many cases death is directly traceable to this heart failure.

As the two types of fever, typhoid may represent the fevers of long duration, and pneumonia those of short duration.

During the first few days, usually, of a typical acute lobar pneumonia, there is an increased rapidity of pulse; it is full and bounding and non-compressible; the first sound of the heart is intensified; there is some cerebral excitement, probably due, in a measure, to the increased vascular excitement. After the first three days, the pulse in severe cases increases in rapidity, but usually diminishes in force, and the first sound of the heart is diminished in intensity. These signs are usually regarded as evidences of exhaustion. The fatal result occurs in many cases on the fourth, fifth, or sixth day. From the third to the sixth day may be regarded as the dangerous days, as the rule. In typhoid fever, the disease goes on developing up to the sixth, to the tenth day, and then there begin those evidences of heart failure as shown by the increased rapidity of pulse and diminution in its force, and decreasing intensity of the first sound of the heart. These descriptions give a general idea of the progress of these two diseases so far as the heart is concerned. There are, of course, many exceptions to the rule as stated above. Cases do occur with the progress as here stated, and will answer our purpose in the discussion of the question.

Almost all observers agree that when quinine is given as an antipyretic it should be given in one single large dose, or at least a large quantity must be given within an hour. Usually this need not be repeated within twenty-four hours. Others give the large doses at twelve hours' interval. A large dose may be anywhere from twenty to sixty grains, depending somewhat on the observer and somewhat on the height to which the temperature has risen.

The physiological effect of quinine on the circulatory system is a subject of great interest, and especially so to us to-night, in view of the question for discussion.

Almost all observers agree that small doses of quinine, say from two to five grains, stimulate the heart both as to frequency and force.

Almost all observers agree that large doses act, in many cases, as powerful antipyretics. Some even attempt to explain their antipyretic effects by their influence as an arterial and cardiac sedative. I will not enter into any discussion as to how quinine acts as an antipyretic; its effect on the heart, directly or indirectly, is what concerns us in the discussion to-night. The effects of quinine on the circulation may be studied from two standpoints—that of the experimentalist and that of the clinician. I admit that many experiments may lose much of their value from the fact that the observer makes his experiments under the influence of a very strong dominant idea. Therefore great care should be shown in estimating the value of any experiments.

The experiments of Eulenbourg and other observers seem to show that quinine in sufficient quantity causes a diastolic cardiac arrest by a direct depressant action on the heart. Other experiments seem to show that toxic doses of quinine paralyze the vaso-motor nervous system.

Binz's experiments seem to show that some of the disturbances of sight and hearing depend on impairment of the heart's function. He thinks experiments on warm-blooded animals have proved that the injury to the heart and paralysis of the respiratory center are the cause of death.

Bartholow thinks that quinine in large doses depresses the action of the heart, diminishes the blood-pressure, and enfeebles while it slows the pulse.

Farquharson says large doses of quinine cause the rate of the pulsations to fall, and the arterial tension to diminish, and adds that death may even ensue from convulsions or sudden collapse, following depression of the heart's action.

H. C. Wood, Jr., says: "Quinine, when given in large doses, acts as a powerful depressant, and for this reason is given in some diseases where such action is desired." Many observers have noticed that large doses (some specifying from thirty to sixty grains) produce in man a less frequency and less force of the pulse. Sometimes after very large doses it has been observed that the radial pulse was almost imperceptible. When it became as feeble as this, it was rapid and sometimes irregular. I have frequently observed, even after twenty grains of quinine, that, although while the patient was in a recumbent posture very little change in the frequency of the pulse was noticed, yet when the patient got up and walked about, even leisurely, there was decided increase in the rapidity of the pulse, and some diminishing of its force.

* Read before the New York Clinical Society, November 23, 1883.

The pallor of countenance, with coolness of lips and skin and coldness of extremities, which sometimes follows large doses of quinine, seems to me to be due to depression of the heart's action or a depression of the circulation through the vaso-motor nervous system.

In some patients there is a great susceptibility to the influence of quinine, and frequently "fluttering" at the pit of the stomach and over the præcordial region, with coldness of hands and feet, is complained of.

A gentleman in this city, past sixty years of age, who was formerly in the habit of taking considerable quinine—sometimes as much as thirty grains a day—has told me that after he has taken a quantity above twenty grains a day he has noticed a decided dyspnoea on exercise, fluttering over his præcordial region, a less forcible pulse, and sometimes an irregular one.

I have in a number of instances noticed patients, to whom I have been giving large doses of quinine to reduce temperature, have the temperature suddenly fall, while they passed into a condition of exhaustion with profuse perspiration, feeble pulse, cold hands and feet, and sighing respiration.

I have for some years felt that, if the physiological effects as above described are correct, there comes a time in almost all febrile conditions when quinine *may* be dangerous. This time is when the heart begins to fail, and this usually occurs from the third to the sixth day in pneumonia, and during the second week in typhoid fever, taking these again merely as types of fevers of short and long duration. The temperature after heart failure begins may be as high as or even higher than before, certainly a very important fact in view of the foregoing statements, and in view of the almost routine practice of prescribing large doses of quinine in high temperature, whatever the condition of the heart may be.

Large doses of quinine begin their effects in from a half-hour to two hours. They reach their maximum effects in from four to six hours. Agents can be given to counteract the effects of large doses of quinine on the heart, and should always be given where there is the tendency to heart failure. When they are given, their effects should be kept up for many hours. The effects of some of the cardiac stimulants pass off in a short time. The remedy must be given in such a way that its effects will be kept up continuously. If a single large dose of quinine is given, it would be practically useless, for instance, to give a single dose of ammonia to counteract the distressing effects of the quinine. It must be given in doses repeated every two or three hours, and kept up even after the effects of the quinine have passed off. Almost any of the cardiac stimulants will aid in counteracting the effects of these large doses of quinine; but I have found small doses of opium answer the best purpose. In doses of from a quarter to a half grain, opium is a cardiac stimulant, besides being, under conditions of high temperature, a great sedative to the nerve perturbation which accompanies such a condition.

My observations have led me to the following conclusions, although I am still open to conviction:

Large doses of quinine should not be given in any case

of high temperature after heart failure begins, unless agents to counteract their effects on the heart are given.

Great caution should be exercised in giving large doses of quinine, in high temperature, in any case of organic heart disease with enfeebled power. They should be used cautiously in old people with high temperatures.

I am well aware of the popular prejudice against quinine, and have hesitated somewhat in calling attention to some of the points involved in this question, because there are so many conditions which can be relieved by quinine better than by any other agent. Indeed, I can only repeat what I said at the beginning of this discussion—I place it second in importance only to opium in the treatment of disease in this region.

THREE CASES

ILLUSTRATING THE OCCASIONAL ACTION OF LARGE DOSES OF QUININE.*

By J. WILLISTON WRIGHT, M. D.,

PROFESSOR OF SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY
OF THE CITY OF NEW YORK.

CASE I.—*Catarrhal Pneumonia following Measles*.—L. B., ten years old, was first seen April 26, 1876. For the first five days the temperature was 105° F.; the pulse 136 to 140, weak; the respirations 40 to 50. On the seventh day the temperature fell to 98°, the pulse to 90, and the respirations to 30. On the evening of the same day the temperature rose to 103.2°, the pulse to 120, and the respirations to 42. On the eighth day the temperature fell to 102°, the pulse to 98, and the respirations to 40. On the evening of the ninth day the temperature rose to 103.8°, the pulse to 100, and the respirations to 52.

During the next twelve hours, owing to a mistake on the part of the mother in carrying out the directions, the child had twenty-five grains of sulphate of quinine by the mouth and twenty-five grains by the rectum—fifty grains in all. Within two hours of its administration, or on the morning of the tenth day, I found the child in collapse, with a temperature of 98.9°; the pulse 60, very weak and intermittent; and the respirations 32, shallow, sighing, and gasping. The face and lips were cyanosed, and the surface was cold and covered with moisture.

Under the use of large doses of stimulants, external heat, sinapisms, etc., the temperature rose slowly, and on the morning of the eleventh day had reached 96.5°. On the same evening it was 98°, and on the morning of the twelfth day, or sixty hours after the administration of the quinine, it was 98.5°. The patient recovered fully.

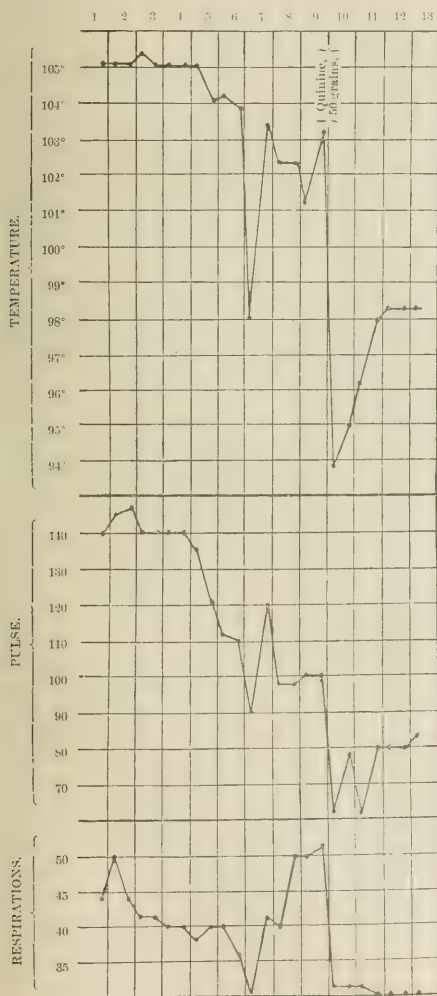
CASE II.—*Physo-malarial Fever complicated, in the Third Week, with Broncho-pneumonia, due to Exposure*.—John M., twenty-eight years old, had a temperature of 104° to 105° for five days after the pneumonia began. During this time he took three grains of quinine every three hours, with no appreciable effect on the temperature. On the evening of the fifth day, the temperature being 105°, he took fifteen grains of quinine in one dose, and the same amount on the morning of the sixth day—thirty grains in all. I saw him at 11 A. M. The skin was cold; the face and lips were cyanotic; the temperature was 96°; the pulse 132, feeble and irregular; the respiration sighing; he complained of dyspnoea, and thought he was about to die. Under the use of stimulants, etc., the tempera-

* Being a communication addressed to Dr. A. A. Smith, and read by him before the New York Clinical Society, December 28, 1883.

ture rose gradually, and at the end of twenty-four hours had reached 102.5°. He eventually recovered.

CASE III.—Acute Catarrhal Phthisis following Pneumonia.—F. N., twenty-four years old, frequently had a temperature of 103.5° to 104° for several days together. On several of these occasions doses of twenty to thirty grains of quinine were given, with the hope of reducing the temperature. The temperature was generally unaffected by the remedy until after the symptoms of shock came on, when it became sub-normal, and remained so until the effects of the quinine had passed off. The face and lips were usually cyanotic, the heart's action was feeble and irregular, and the patient complained of dyspnoea with extreme prostration.

The accompanying chart shows the course of the temperature, pulse, and respirations in Case I.



I could give you notes of several other cases if it were necessary, but the story is about the same in all.

A CASE OF POISONING BY SULPHATE OF CINCHONIDINE.

By JOSEPH E. WINTERS, M.D.,

CLINICAL LECTURER ON DISEASES OF CHILDREN IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

A boy of about five years of age appeared at my clinic in the early part of May last, accompanied by his mother, who said to me that he had "the fever" again. I had treated this boy and other members of the same family repeatedly for various manifestations of ague. In January I had attended the boy during a severe attack of remittent fever, from which he made a good recovery under the use of sulphate of cinchonidine.

The afternoon that he came to me his temperature was 103.9° F. His spleen was enlarged, and he was very cachectic. He had the usual symptoms of ague: pain at the pit of the stomach and vomiting. He also complained of headache. His mother said that he had had fever in the afternoon and night for two days previous; that in the mornings of the same days he seemed quite well. A diagnosis of remittent fever was made, and he was ordered eight grains of sulphate of cinchonidine, in solution, every two hours, until either the fever subsided or the skin became moist.

The mother was given a two-ounce solution of sulphate of cinchonidine, which contained eight grains to the drachm. This was at 3 P. M. At ten o'clock the same evening I was asked to see the boy at the house. On arriving at the house, I learned that he had had three convulsions, in which the movements were general, but irregular. There were no convulsive movements when I saw the boy, who was lying on the sofa, apparently exhausted. His temperature was 94.6°; the pulse almost imperceptible at the wrist—in fact, but few radial pulsations could be perceived. In endeavoring to count the cardiac pulsations by auscultation, I made them about seventy-four to the minute. The skin and mucous surfaces appeared utterly bloodless; the pupils were dilated, and the child was semi-conscious. His lack of mental clearness seemed more due to bloodlessness of the brain, if one could judge, than to any other pathological condition.

The child was given his first dose of cinchonidine at three o'clock, when, by mistake, a tablespoonful was given instead of a teaspoonful dose, which was repeated every two hours until two ounces had been administered; so that, within six hours, the boy was given one hundred and twenty-eight grains of sulphate of cinchonidine in solution. None of the medicine was vomited. The boy's bowels had been in proper condition previous to and on this day. His urine was analyzed at the time, and nothing abnormal was discovered in it.

Stimulants were administered; heat and friction were applied to the surface and to the extremities. The boy remained in much the same condition, sank gradually, and died, apparently of exhaustion, at five o'clock the following morning. He was conscious up to the time of death. There were no more convulsions.

Autopsy, twenty-six hours after death.—The sinuses of the brain were filled with dark, slightly coagulated blood. There was no thrombosis of any sinus. The brain was anemic throughout its entire extent. The left heart was contracted, not firmly, and was empty; the right heart contained a small quantity of dark-colored blood. The spleen extended about one inch below the free border of the ribs, and was somewhat enlarged in all directions. It was unnaturally firm, and its capsule was considerably thickened. All the other organs of the body were healthy.

It will be seen that the patient had been treated for the same disease before by means of cinchonidine, on which occasion it had a good effect. The fatal termination on the last occasion was evidently due to poisoning by the drug.

THE RELATIONS OF A PHYSICIAN TO THE COMMONWEALTH.*

By E. C. HARWOOD, M. D.

(Concluded from page 68.)

General Rules for Medical Witnesses.

As medical men are liable to be called upon at any time, either as experts or witnesses, no one should be without some knowledge of medical jurisprudence. In the practice of almost every physician cases will arise connected in some way with the law, or whose results may demand *medico-legal* investigation. He may at any time be called upon to give evidence as to matters which he has never deemed as of the slightest importance, and yet which may involve an innocent or guilty person in serious consequences. Some knowledge of what is required of witnesses in such cases and a slight acquaintance with medico-legal knowledge may enable him to avoid mistakes which may greatly injure his own reputation.

No matter how great a physician's reputation may be, in the particular case or branch of medicine in which he is called upon to testify he will be required to give a careful and concise statement of the grounds on which he bases an opinion, and, if the case is one which has come under his personal observation, he must state all its facts, symptoms, and circumstances. His first care, therefore, should be to cultivate a faculty of minute observation of medical and moral circumstances. In the examination of a body of a person who has died a violent death, he should notice its general condition and position, and, if death has resulted from the effect of wounds, the locality of the wound, its size, form, and direction, the size and position of the weapon, and all circumstances having the slightest relation to the wound should be accurately noted. All blood stains, and all marks on the furniture or on the body, should also be carefully observed.

In all cases where a physician will be likely to be called upon in the future to give evidence, he will find it very convenient to draw up a report or memorandum of facts and appearances while they are fresh in his recollection.

These facts and appearances are generally so minute and detailed that they can not safely be intrusted to the memory.

The witness may refer to such memorandum in order to refresh or assist his memory, even in the witness-box.

A medical witness should be well prepared to give evidence on all parts of the subject of inquiry, and should remember that in all cases there are astute counsel watching for an opportunity to find something in his testimony which may be incorrect, evasive, or confused.

Counsel in the trial of a case are generally well prepared to put questions which may prove puzzling to the witness, particularly when he is not permitted to give an explanation of the grounds on which he forms his opinion.

The various modes of treatment, the causes and effects of certain symptoms, the various schools of medicine, may be gone into by counsel, and a short and, in many cases, a categorical answer will be required.

The subject, therefore, should first be clear in the mind of the witness, in order that his account may not be confused or unsatisfactory.

The case should be carefully considered and viewed from different aspects, and, if an opinion be formed, it should be subjected to criticism and dealt with as if it were that of an adversary. Opinions should not be formed or expressed unless carefully considered, as they may be of the greatest influence upon the fate of the prisoner; but, if, after careful consideration, they are once formed, they should be honestly expressed.

All facts should be clearly and fairly stated, and great care should be taken not to group nor state them in such a manner as to affect the prisoner. The consequences of such testimony should not, however, prevent a fair and candid statement of the facts.

To all questions put by either side, direct answers will be required, and they should be as short and concise as possible.

As the medical man is simply called to give the testimony for which his knowledge and experience fit him, he should take great care to confine himself to the simple statement of facts and opinions thereon, and not allow his sympathies to be enlisted either for or against the prisoner so as to bias his evidence.

His answers should be made to either the prosecution or the defense in a manner suited to the serious occasion on which he appears, even though he may feel himself provoked or irritated by the course of examination adopted.

A witness should not be flippant or impertinent, nor attempt to argue with counsel. In such cases the witness is generally worsted by the counsel, or rebuked by the Court, and such conduct on the part of a witness only tends to weaken his testimony. What he says under such circumstances is not evidence.

All replies and answers to questions should be made as simple as possible, avoiding technical terms, and should be distinct and audible, and as concise as it is possible to make them.

When it is necessary to make an explanation it should be confined, strictly, to the terms of the question; it should never be ambiguous, undecided, nor evasive. If he has formed an opinion, after careful review of the facts and circumstances of the case, he should give it in plain and

decided language, and be prepared to assign reasons for such opinion; but if he has not formed a conclusion, he is not competent to give evidence, and should allow no consideration to induce him to do so.

A witness may correct counsel on medical subjects when wrong in his views or statements, or may explain medical points, but it is better to confine himself to answering the questions put to him, and to a statement of the facts. Any uncalled-for or unnecessary explanation on the part of the witness may give rise to a charge of bias for or against the prisoner.

Great care should be taken to avoid any appearance of prompting counsel in the conduct of the case.

Partners.

A partnership of professional men differs in some respects from ordinary partnerships; but, in the main, the members of a medical partnership enjoy all the privileges of, and are liable in the same manner as, ordinary partners.

They may hold property, may sue, and be sued, jointly.

These partnerships should be governed by articles of copartnership, carefully drawn, setting forth the duties of the partners and division of the profits; such articles, when executed, are binding, and may be enforced by either partner.

In the absence of evidence to the contrary, the presumption is that the partners are entitled to an equal share of the profits; and where the agreement is only to share the profits, under similar circumstances the losses must be shared in the same proportion, unless restrained from so doing by the copartnership articles. Any partner may contract debts for the firm, bind the firm, receive and receipt for moneys due the firm, pay debts out of the partnership funds, hire and discharge servants, purchase drugs, medicines, etc., on the usual credit, and do anything in relation to the partnership or business.

A partner is not responsible for a free gift made to him exclusively.

Each partner has the right to attend any patient, or to do any business connected with the partnership, unless restrained by the articles.

One partner can not transfer his interests to another, so as to constitute him a member of the partnership, without the consent of the other partner.

The partnership may be dissolved by mutual consent, or by the occurrence of an event made a ground of dissolution by the articles.

A dissolution may be obtained in equity where one partner is systematically excluded from the business, or on the ground of permanent or willful neglect of business, or gross misconduct as to professional or partnership matters by one partner, or on account of the insanity of a partner, or if he has become incapacitated from attending to the business.

A partnership is also dissolved by operation of law, or the death or bankruptcy of a partner, or on his conviction of a felony.

Assistants.

As a general rule, a physician is civilly liable for the wrongful acts of his assistants when they are within the ordinary course of his employment.

Thus, a physician is liable to a civil action for injury done to a patient by the want of proper skill in his assistant; but the injury must have been directly caused by such incompetency.

A physician can not, however, be held *criminally* responsible for the acts of an assistant unless he expressly commands or personally co-operates in them.

In making engagements with assistants, care should be taken to have the remuneration expressly stated; and, if it is to be a portion of the profits, instead of a fixed salary, some memorandum should be made in writing, to avoid any misunderstanding, and to remove the presumption of partnership.

When an assistant is allowed to receive moneys, contract debts in the name of the physician, and perform the ordinary duties of a partner, he will be considered a partner as to third persons, though not between the parties themselves.

Where the assistant is paid by a share of the net profits he is considered a partner as to third persons, but this is not the case if he be paid by a share of the gross earnings.

As between the physician and his assistant, participation in the net profits of a business is evidence of partnership, and requires strong evidence to remove the presumption of partnership of the person so participating.

An assistant may be discharged for willful disobedience of any lawful order; for gross immoral conduct, whether pecuniary or otherwise; for habitual neglect of business; for incompetence or permanent disability from illness, or for any conduct calculated seriously to injure the business of the physician.

Good-Will.

A physician may sell his business to another, and such a sale carries with it what is known in the law as "good-will"; that is, the advantage or benefit which is acquired by an established practice, and by the public patronage and encouragement which it receives by reason of its local position, common celebrity, reputation for skill, or other accidental circumstances.

One may also enter into an agreement with the person to whom such sale is made not to exercise his profession within a certain distance of the place where he formerly practiced, and bonds may be given for the faithful performance of such an agreement; but an agreement by a physician not to practice his profession at all is unlawful, and can not be enforced.

Gifts from Patients.

No person who stands in a relation of special confidence to another, so as to acquire habitual influence over his mind, can accept any gift or benefit from the person who is under the dominion of that influence without danger of having the gift or benefit set aside in a court of equity.

The Courts will not enforce instruments or acts between persons standing in the relation of parent and child, guardian and ward, physician and patient, solicitor and client, and in the various other relations in which one party is so situated as to exercise a controlling influence over the will,

conduct, or interest of the other, where it appears that any undue influence was used in obtaining its execution.

In some cases this influence will be inferred from the nature of the transaction and the exercise of occasional or habitual influence; and where there exists a relation which naturally creates influence over the mind, such as the relation between medical adviser and patient, the Court will infer, from the mere fact of the existence of such relationship between the parties, the probability of the existence of undue influence.

Any agreement between physician and patient, or any gift, bequest, or devise by a patient to his physician, is narrowly scrutinized, and the right of action is not deemed to be established, or proof of the due execution of the instrument, without clear proof outside of the paper of its integrity and entire fairness. The legal presumption is against its validity, and the burden of proving that all was fair, and that the patient acted freely and understandingly, falls upon the physician.

The Courts do not blame or discountenance the influence itself flowing from the relation of physician and patient, unless it has been exerted in the interests of the physician and against those of the patient; and where the influence has been exerted in the interest of the physician it must be *undue*—that is, must amount to coercion, either physical or moral, in order to invalidate the gift.

A person has a right, by reasonable argument or persuasion, to induce another to make a will, and even to make it in his favor; but in the case of a physician and patient it must be clearly shown that the testator thoroughly understood what he was doing, and acted as a free agent.

Whenever a person makes a will in favor of another, or bequeaths him a legacy, the will should not be witnessed by the person in whose favor it is made, as, in order to prove the will and admit it to probate, such person would be compelled to renounce his interest under it before his testimony would be received.

Contracts with Patients.

There is nothing in the relation of physician and patient which precludes them from entering into any contract. There is no reason why a physician should not enter into any ordinary contract, such as the purchase of a horse or a house from any patient, where the relation of physician and patient has no bearing upon it.

The Courts will only interfere to set aside such contracts where they have not proceeded openly and fairly, or when they have actually arisen out of the relation of physician and patient, or where the attendance of the physician, in the case of actual sickness, has continued down to the very time of the contract, and only then when undue influence in obtaining the execution of such contract is proved.

But in these cases the presumption is against the physician, and the burden of proof is upon him to show that there was no unlawful influence exerted.

Recovery of Fees and Charges.

Formerly, in England, the services of a physician, like those of a lawyer, were considered honorary, and no com-

pensation could be enforced, the physician depending entirely upon the gratuity of his patient. Whatever was given was called an *honorarium*. This, however, has long been obsolete, even in England, and the principle of *honorarium* has never found support in American law.

In this State every medical man is entitled to demand and recover in any court of law, with full costs of suit, reasonable charges for professional aid, advice, and visits, and the cost of any medicines or other medical or surgical appliances rendered or supplied by him to his patient. As registration is required, all that is necessary for the purposes of such recovery is that the physician shall have been employed and shall have rendered the services and supplied the medicines or appliances for which he charges; though, if the fact of his being a physician be denied, he will be put to the proof of the same on the trial. This is shown either by the diploma of any incorporated medical college, or by the certificate given by any of the various medical societies previous to 1880. A physician only undertakes to exercise ordinary care and skill, and does not undertake to cure.

He undertakes, however, to practice according to his avowed system and the custom of the particular branch of the profession to which he belongs.

It is no defense, therefore, to an action by a physician for his fees, that no benefit from his care or treatment has been received unless it be shown he has been grossly negligent or has treated the patient unskillfully; nor can the defense that the mode of practice pursued was not agreeable to the views of the patient be interposed successfully, provided the physician adhered to the course of his own system, for the patient is bound by his own selection.

There are no fees prescribed by law, and unless there is a special agreement as to the amount to be charged, each physician is entitled to whatever his services are reasonably worth, and the patient, by the fact of calling in a physician and receiving his professional visits and services, agrees to pay him his usual charges.

These charges may be greater or less, according to the character and standing of the physician employed, but should be reasonable and customary among physicians of corresponding professional standing.

If the charges be objected to, it then becomes a question of fact for the Court or jury whether the services rendered were reasonably worth the amount. This is shown by the ordinary charges of the physician or of the profession for such services, and, in difficult or unusual cases, by the evidence of physicians that the amount charged is not unreasonable. Where a physician has employed an assistant or student in the attendance or treatment of a patient, he may recover whatever the services of the assistant or student are reasonably worth. The patient, however, has the right to object to the visits or treatment of the assistant or student; but, if he receives the visits and treatment without objection, a reasonable compensation may be recovered. When a partnership exists between medical men, and both partners have attended the patient, they should recover in the partnership name. A physician should keep proper books, in which his visits and operations are entered, as these may be

of great service to him, as books of original entry, where the services rendered are disputed. Such books are evidence, and will also be found very useful in making up a bill of the particulars of his claim.

Such a bill is demanded and allowed in almost every case, and should be made out with particularity and correctness.

The customs of the profession are considered as imported into all contracts between medical men and their patients.

In attending servants, a medical man must look to the servant for payment, unless he has an express understanding to the contrary with the master; for a master is not bound to provide medical assistance for a servant, and is only responsible upon an express agreement to pay for such assistance. An infant may contract and render himself liable for medicines and medical aid.

For attendance upon a married woman the husband is always responsible, unless it is understood that the woman intends to bind her separate estate.

If any person, even a mere stranger, direct a physician to attend a poor man, such person is liable for the physician's bill. If, in the absence of the police-surgeon, a physician is called upon by a police officer to visit a sick person in the station-house within the metropolitan district, the physician may recover his fees from the city; but this can only be done when the case is urgent and the regular police-surgeon is absent.

A certificate of attendance should in such cases be obtained, at the time, from the officer on duty.

A physician who reports to an insurance company as to the state of health of a patient can only recover from the company a fee for such services upon an express undertaking to pay such fee, although the report be made upon a form supplied by the company.

A conductor of a railway has no authority to bind the company by a contract entered into with a medical man to attend a passenger injured by an accident on the railway.

The general manager or superintendent of a railway may, however, bind the company by a contract to attend a servant of a railway injured in an accident in the performance of his duties, and they may also, in case of accident, send for medical assistance, and pledge the credit of the company for the same.

It is a general principle, pervading the law of agency, that one who procures services to be done for another is not chargeable as the debtor, unless he omits to make known his principal, or erroneously supposes that he has authority or exceeds his authority, or expressly or impliedly engages to be answerable either by directly promising to pay for them if rendered, or by doing or saying something which justifies the person who is to perform them in supposing that the one who applies to him engages to pay for them.

In rendering bills for professional services, great care should be taken to make the bill out in the name of the person who has ordered the services, so that no question may arise as to whom credit was given.

As a profession, we are happy to appreciate that the State, in passing the law of 1880, has reduced the number of

bodies competent to legalize practitioners of medicine from one hundred and fifty to eleven. These eleven bodies are the *medical colleges* of the State. All candidates for qualifications to practice medicine must produce a certificate of three years' pupilage; but there is no established standard of knowledge required for the degree of Doctor of Medicine.

The scope of the examinations for a degree is left entirely to the discretion of the faculty of the eleven medical colleges. For the foregoing reasons some of the most thoughtful of our profession have set on foot a plan to enact a law whereby we shall have a state board of examiners in medicine. The Erie County Society is soliciting the co-operation of other medical societies to aid it, in carrying forward this plan, to get their proposed bill before the Legislature.

The argument I should advance in favor of some more definite knowledge regarding the qualifications of one who has received a degree in medicine is exemplified in the United States Army Medical Board. No matter how many literary or medical degrees one may have received, nor from what source they came, the United States will not appoint a surgeon to go on to the frontier and minister to her sick soldiers until the Army Medical Board have attested his qualifications. Neither will a man be appointed on the staff of one of our own charity hospitals without first showing before a medical examining board that he is qualified.

If the United States demand and require such examination in the interest of her soldiers, and the State requires the same for the protection of her paupers, why should she not require it for the protection of her taxable citizens?

NOTE.—The abstracts of laws given in this paper were for the most part furnished by Mr. R. Duncan Harris, of the New York bar.

THE NECESSITY OF PRIMARY PERINEORRHAPHY.*

By CHARLES R. CRANDALL, M. D.,
PORTLAND, ME.

THE subject to which I invite your attention to-night is not new, but rather one of vast importance. I disclaim, at the outset, all pretension toward originality, and offer, as my warrant for reviewing what has been discussed so many times before, the necessity of creating a professional sentiment favorable to primary perineorrhaphy. I feel that this simple but necessary procedure should become established as one of the imperative duties of the obstetrician, to the end that human suffering may be averted and human lives prolonged.

Preliminary to the remarks I shall make, I desire to report three cases, occurring in my own practice, which illustrate the utility of the primary operation.

CASE I.—R. S., Germain, aged eighteen, a primipara, of large stature and in perfect health. She was well during gestation, and was confined at full term. Not being summoned in time, when I arrived I found that labor had terminated. The nurse informed me that the child was born head first, that she had cut

* Read before the Cumberland County Medical Society, December 26, 1883.

the cord, and that the placenta was still undelivered. Proceeding at once to remove the placenta, I observed that the perineum was lacerated through to the anal sphincter. As soon as the patient was in a proper condition I proceeded to perform the primary operation. This done, she was put in position, her legs were bandaged, and opium was given, with a view of relieving pain and confining her bowels. All went well until the third day, when she had an attack of diarrhoea, and, during some of her operations, passed four large ascariæ lumbricoides. When I was informed regarding what had taken place, I concluded that there had been sufficient irritation and straining to render my primary operation a failure. To my surprise, however, when I removed the sutures on the seventh day, I found perfect union, and she got up at the end of two weeks in a good condition.

CASE II.—Mrs. J., an American, aged twenty-three, and a primipara; gestation normal. When called to attend her in labor I found her vulva, vagina, and pelvis in a normal condition, and the os uteri slightly dilated. I was enabled, during the first examination, to diagnose a head presentation with the occiput in the left anterior position. Her labor went on satisfactorily for about ten hours, when there ensued a failure of general strength accompanied by uterine inertia. At this time the head was well down upon the floor of the pelvis, but had ceased to make visible progress. Everything seeming normal, I gave her stimulants, with the belief that she would be enabled to deliver herself in a little while. But it became evident that no progress was being made, so I administered ether, applied the forceps, and made moderate traction. The head descended readily, and the occiput rotated toward the pubic arch. As the vertex entered the vulva I removed the forceps, with a view of saving the perineum, and, after one or two pains, the head was born without injury to that structure. Almost immediately a strong pain followed, forcing the fœtus through the vulva rapidly. I soon saw that the perineum was ruptured, the anal sphincter destroyed, and the recto-vaginal septum torn to the extent of an inch and a half. This calamity was plainly due to the rapid delivery and the unusual development of the fetal shoulders. The infant weighed ten pounds and some ounces. Having decided upon performing the primary operation, I sent for a professional friend to assist me. Having cleansed the parts, they were brought into perfect apposition and secured with six silk sutures. The patient was then placed in the prone position and her legs bandaged together. The nurse was directed to give her morphine sufficient to relieve pain, catheterize her bladder twice daily, and administer a warm carbolized vaginal douche every six hours. Her diet was to consist of a moderate quantity of liquids, and she was to use the bed-pan after the third day. No bad symptoms ensued. I removed the sutures on the seventh day and found perfect union. She steadily convalesced, rising from her bed on the fourteenth day "feeling as well as ever."

CASE III.—Mrs. A., an American, of very slight stature, aged twenty-five, and a primipara. Her gestation was normal, but it was noticeable, from first to last, that her form was remarkably small. Indeed, as late as the eighth and ninth months she was able to wear her ordinary garments without being obliged to lengthen her waistbands. As her sister said, "She never saw any one so small and carry their child so low down." She had been in labor several hours when I saw her, and had made some progress. Upon making examination, I found the vulva, vagina, and pelvic diameters apparently normal. The os uteri was slightly dilated, and the fetal head was presenting with the occiput in the left anterior position. After several hours the head became engaged in the superior strait, but did not descend satisfactorily. During the early stage of her labor I found that there was a most limited quantity of amniotic fluid, and

it was owing to that fact that she had been so very small during her pregnancy. While manipulating the fetal head I ruptured the membranes, but not more than two or three ounces of amniotic fluid escaped. The head still remaining at the brim of the pelvis and, no advance being made, I decided to etherize and apply the forceps. Not being well assisted, I sent for two physicians. Soon after their arrival we applied the forceps with much difficulty, and each in turn made traction, but to no avail. Having the forceps in hand, I allowed the head to recede, made readjustment, and accomplished the delivery. The fœtus weighed eight pounds and a half, and had a large and peculiar-shaped head. The bi-parietal diameter was abnormal, and the parietal protuberance, which had presented anteriorly, had so pressed against the symphysis and rami of the pubes that it was markedly indented and had caused the delay. Owing to the size of the head and the prolonged use of the instrument, the maternal tissues were injured and the perineum was ruptured down to the sphincter ani. I will not enter into the after-history of this case, but simply say that I proceeded at once to perform the primary operation, using four silk sutures. On the sixth day I removed the sutures and found a perfect union and a good perineum.

As yet I have not become a convert to the new and skeptical view that "no such body exists as the perineal body," so I shall base my remarks upon the old "orthodox doctrine" that there is such an anatomical structure. I believe that there is a "body," or "structure," situated between the lower portion of the vagina and rectum, composed of fascia, adipose tissue, areolar tissue, muscular tissue, blood-vessels, and nerves, and that it is very properly known as the perineal body. Having recalled the structure we are to discuss, let us consider for a moment its important functions, and in presenting these I shall quote the words of that matchless instructor, Dr. T. G. Thomas:

1. "It sustains the anterior wall of the rectum, thus sustaining the equilibrium between the rectum, vagina, cervix, and body of uterus.
2. "It sustains the posterior wall of the vagina.
3. "Upon the posterior vaginal wall rests the anterior, upon that the bladder, and against the bladder the uterus—all of which, to a great degree, depend for support upon the perineal body.
4. "It preserves the proper line of projection of the contents of the bladder and rectum, and thus prevents the occurrence of *tumours*, which is a frequent cause of pelvic displacements."

From this brief statement of the function of the perineal body we comprehend without argument its great importance in the physical economy of woman. Now let me review, in a concise manner, the unfortunate conditions which at times occasion rupture of the perineum.

1. A too rapid labor. In primiparous women, when the expulsive contractions are frequent and powerful, the perineum may be ruptured before it has time to dilate.
2. Want of elasticity. In patients in whom the tissues are rigid, or excessively fat or fleshy, there is danger of rupture because sufficient dilatation can not take place.
3. Straightness of the sacrum. In patients in whom there is an imperfection or absence of the normal sacral curvature, the fetal head is driven down directly upon the perineum, and generally causes rupture.

4. Narrowness of the vulvar orifice. As is well known, females vary greatly in this respect, and in those having a small orifice there is a natural predisposition to rupture during the first labor.

5. Abnormal presentations. In vertex presentations followed by occipito-posterior positions, the longest diameter of the head distends the perineum. The mechanism of this form of labor, showing how the head advances in the occipito-posterior positions, is beautifully shown by Lusk in his "Science and Art of Midwifery," p. 178. There it will be seen that, when the occiput rotates backward into the hollow of the sacrum, pressure upon the perineum is inevitable, and will probably cause rupture.

6. Abnormal diameters of the fetal head and shoulders. Some authorities affirm that rupture is almost always caused by the head, while others assign it more frequently to the shoulders. In two instances I have seen ruptures which were plainly due to excessive "bis-acromial diameters," and I look upon a carefully regulated delivery of the shoulders as being of as much importance as management of the head.

7. Instrumental delivery. I have heard it said that more perineums were destroyed by the forceps than by all other causes. Baudelocque declared "the forceps has been more injurious than useful to society."

Undoubtedly, instruments in tired, nervous, and unskilled hands have caused inestimable damage. Many instruments are faulty in construction, oftentimes they are not removed soon enough, and frequently traction is made in the wrong direction. Hence the value of the rule to use a forceps as seldom as possible, to do so with great care, and to take it off as soon as the fetal vertex enters the vulva.

The foregoing are the principal causes which produce the unfortunate accident, and they should be understood by every physician, so that he may do his duty in endeavoring to avoid its occurrence. Valuable as it is to be able to perform primary perineorrhaphy, it is highly more important to guard against the causes and prevent the necessity for the operation.

At the present time perineal rupture is divided into two principal varieties—partial and complete—and these again are subdivided into four, to be defined hereafter. These subdivisions and varieties are largely imaginary and arbitrary, for practically there are as many as there are women who undergo this form of rupture. No two cases are exactly alike, yet there are general appearances and general rules bearing thereon which are of quite universal application.

The four subdivisions alluded to have been generally adopted by the profession, and are as follows:

1. "Rupture of the fourchette and perineum";
2. "Rupture to the sphincter ani";
3. "Rupture through the sphincter ani";
4. "Rupture through the sphincter ani involving the recto-vaginal septum." (Thomas.)

As a rule, the first degree of rupture shows but little externally after the parts have contracted, but it should ever suggest a thorough vaginal examination, for at times the integumentary rupture is slight, while the vaginal and perineal is extensive, demanding the introduction of sutures. The second degree necessarily involves the sphincter vaginae, and

is too serious an accident to be trusted to spontaneous cure, for it is frequently followed by immediate and secondary evils. The third and fourth degrees, known as complete rupture of the perineum, are among the most serious accidents attending parturition. They are accidents that should command immediate attention, as much as or more than a fracture or dislocation. In exceptional cases the patient may rally, and experience but little suffering, but the rule is that, if neglected, she will never see another well day, and will become an object of pity and misery.

Solution of continuity in the genital tract of the parturient primipara is very common. I am among those who believe that a rupture of the fourchette, and more or less of the perineum, occurs in almost every primipara, whether instruments are used or not, and that the event is practically unavoidable. It has occurred in all the primipara I ever saw, and we are assured by the best authorities that it invariably does occur. Playfair says: "In almost all first labors the fourchette is torn." And Lusk adds: "Owing to the small size of the vaginal orifice, tears through the mucous membrane and erosions of the vulva, and, in the primipara, the rupture of the frænulum, are to be accounted for as the almost inevitable consequence of childbirth."

The more extensive forms of laceration of the perineum, I believe, occur, to a greater or less degree, in the majority of primiparous women, and this regardless of all the precautions that may be taken. At the obstetric clinic at Halle, Olshausen professes to have reduced perineal injuries in the primipara to about 21 per cent. by precautionary measures, but I venture to assert that no such average can be found in private practice. Take it in America, where the tendency is toward a decline in the development of the bony and muscular structure of mothers, while on the contrary there is a tendency toward an increase in the diameters of the fetal head, and it is my opinion that these statistics can not be confirmed. Three cases in my own practice illustrate how easy and almost unavoidable it is for such accidents to occur. In the first case it was due to natural conditions, for the fœtus was born in the absence of any attendant; the second was plainly due to the small size of the mother and unusual size of the fœtus; while the third was due to the limited bony structure of the mother and marked increase in the diameters of the fetal head.

To lay down absolute rules by which the majority of perineal ruptures may be avoided is, of course, impossible, yet nearly every physician who has considerable obstetric experience makes the attempt. Hence Olshausen says: "Support the presenting part instead of the perineum and regulate its progress." Ritgen's method "consists in lifting the head upward and forward through the vulva, between the pains, by pressure made with the tips of the fingers upon the perineum behind the anus, close to the extremity of the coccyx." Goodell recommends "hooking two fingers into the anus and drawing the perineum forward during a pain, to remove the strain from the thinned border of the vulva and to promote elasticity of the tissues." Lusk suggests: "Between pains I have been in the habit, in case of rigidity, of alternately drawing the chin downward through the rectum until the head distends the perineum, and then

allowing it to recede." Lastly, Parker urges the highly sensible and practical view of the great value of anæsthetics as another important means of preventing the accident. He says "they are indicated, for this purpose, in four classes of cases"; but, for brevity, I cite only three:

1. "In that form of rigidity of the perinæum depending upon excessive irritability of the muscular fibers that enter into its composition.

2. "In those cases where the danger arises from the violent and rapid uterine contractions, driving the head or the shoulders through the vulva before the perinæum has been sufficiently expanded.

3. "Long-continued pressure of the head may produce congestion and inflammation of the perinæum, which not only render it more unyielding, but more easily torn. It becomes hot and dry and very painful, and uterine action becomes irregular and feeble in consequence of this condition. Now, under these circumstances, I have seen the inhalation of chloroform followed by immediate relaxation of the perinæum and a restoration of the normal moisture and temperature of the parts, while efficient action of the uterus was at once resumed."

But, despite all the foregoing good suggestions, partial and complete ruptures will occur, and it is for the attending physician to know what to do, and have the disposition to pursue the right method, to secure the best results for his unfortunate patient.

(To be concluded.)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Elements of Physiology. By Henry Power, M. B. Lond. F. R. C. S., Ophthalmic Surgeon to St. Bartholomew's Hospital, London, etc. Illustrated with 47 Engravings. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. x-389.

The Field of Disease: a Book of Preventive Medicine. By Benjamin Ward Richardson, M. D., LL. D., F. R. S., etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 737.

On the Wasting Diseases of Children. By Eustace Smith, M. D. Lond., Fellow of the Royal College of Physicians, etc. Fourth Edition. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. xxiv-372. [Price, \$3.]

Opera Minora: a collection of Essays, Articles, Lectures, and Addresses, from 1866 to 1882, inclusive. By Edward C. Seguin, M. D., Clinical Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons, New York, etc. New York: G. P. Putnam's Sons, 1884. Pp. x-687. [Price, \$4.50.]

Transactions of the American Surgical Association. Volume the First. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son & Co., 1883. Pp. xxxi-568.

Proceedings and Addresses at a Sanitary Convention held at Pontiac, Michigan, January 31 and February 1, 1883, under the Direction of a Committee of the State Board of Health and a Committee of Citizens of Pontiac.

Proceedings and Addresses at a Sanitary Convention held at

Muskegon, Michigan, August 23 and 24, 1883, under the Direction of a Committee of the State Board of Health, and a Committee of the Citizens of Muskegon.

The Status of the Medical Profession in the State of New York. By Henry G. Piffard, M. D. New York: D. Appleton & Co., 1884.

Trismus Nascentium, or the Lock-Jaw of Infants. By J. F. Hartigan, M. D., of Washington, D. C. [Reprint from the "American Journal of the Medical Sciences."]

Medical Symbolism. By T. S. Sozinsky, M. D., of Philadelphia. [Reprint from the "Medical and Surgical Reporter."]

Morbid Somnolence. By Rudolph Matas, M. D.

A Successful Case of Tetanus Neonatorum Treated with Bromide of Potassium. By L. Emmett Holt, M. D., New York. [Reprint from the "Boston Medical and Surgical Journal."]

An Address on Oral Surgery, Delivered before the American Medical Association. By D. H. Goodwillie, M. D., New York. [Reprint from the "Transactions of the American Medical Association."]

Fifteenth Annual Report and By-Laws of the New York Physicians' Mutual Aid Association.

Correspondence.

LETTER FROM ST. LOUIS.

The College of Physicians.—A Training-School for Nurses.—The Society of the Red Cross.—A Water Famine.—The Mysterious Death of a Family.—The "Weekly Medical Review."—The Medico-Chirurgical Society.—Contagious and Infectious Diseases.

ST. LOUIS, January 18, 1884.

To the Editor of the New York Medical Journal:

THE St. Louis College of Physicians and Surgeons is at the present time passing through a season of trial and tribulation. As stated by the "Globe-Democrat" of Wednesday, it "presents the curious spectacle of an institution the large majority of the faculty of which have resigned and yet continue their lectures, and of a student force who have left in a body and yet attend the lectures."

The *casus belli* is as follows, so far as the facts can now be presented: A well-known surgeon organized the college some four years ago, and there has been a good deal of the "one-man power" in the management of the institution. The surgeon in question secured the incorporation of a board of trustees of his own selection; he engaged the several members of the faculty, and his hand was felt in every act of the trustees or faculty.

Until quite recently there seemed to be no questioning as to the expediency or right of that state of things. Now and then changes were made in the organization of the faculty. Certain names were dropped and others were added.

Last autumn some members of the faculty felt that there was altogether too much of an autocracy in the management of that institution to be consistent with the principles of the government under which we live. They felt that the other members of the faculty should have some rights and privileges. Accordingly, they made a demand that the faculty as a whole should elect the dean and other officers of the faculty (the trustees had appointed the surgeon alluded to dean of the faculty), and that they should have a voice in the removal and appointment of members of the faculty. They demanded also the right to know the financial status of the institution, and that they should have certain rights and privileges with reference to

the stock of the institution, which it is stated carries a debt of about \$7,000.

A formal petition to the Board of Trustees for a reorganization was presented a few weeks ago. As a counter-move, the organizer of the college secured the adoption by the Board of Trustees of a set of by-laws confirming him in all the powers which he had been exercising. A resolution was also adopted requiring all the members of the faculty to sign these by-laws, which were read to the faculty at their regular meeting. Some said at once that they would not sign the paper; others chose to take time for consideration. After a few days, during which they were informed that they must sign the paper soon or resign their chairs, or be discharged, they determined to resign. In accordance with this conclusion, a formal resignation was prepared and signed by all the members of the faculty except three. This was sent to the president of the Board of Trustees. In the mean time disaffection spread among the students. They were told, however, that there was no trouble to be apprehended; that the institution was on a firmer foundation than ever before. On the other hand, a statement of the affair was made to the class by members of the faculty. The students expressed their sympathy with the faculty and their decided disapprobation of the course of its ruling member. They threatened, more or less definitely, that they would summarily eject any professors who might be substituted for the present corps. They held meetings, and formally resolved that, if the faculty left, they too would withdraw in a body.

Then the surgeon began to "crawfish," maintaining that he did not wish to have the faculty resign; that, in fact, he would like to have everything go on smoothly, as it had done. In short, all that he wanted was "to be let alone."

The resignations were not accepted, and, further than that, the professors have continued to deliver their lectures regularly, acting under the conviction that they were under obligations to the class in attendance not to discontinue their lectures in the middle of the term.

Considerable interest is felt by the profession through the city as to the outcome of the squabble. It has been a matter of surprise to some that the faculty have held together as long as they have, and many are doubtful of the reorganization of the institution.

A training-school for nurses has been organized here on a basis similar in many respects to those in Boston, New York, and other eastern cities. A building for the Nurses' Home has been secured and furnished just across the street from the City Hospital. Arrangements have been completed for some eighty lectures to the nurses by a number of prominent physicians, while the details of practical work will be learned by actual service in the hospital. The course will extend through two years, and diplomas will be given to those who successfully complete the course of study and service. The ladies who are interested in this training-school are among the most prominent society ladies in the city, and the success of the institution is guaranteed by the character and influence of those who are urging it on. It is intended to limit the number of the nurses during the first year to seven, and the work will be begun early in February. A meeting of the lady managers was held at "the Home" on Tuesday, January 15th, to inspect the house and its furnishing, and there was a general feeling of satisfaction with the arrangements thus far perfected.

The Red Cross Association here is working now to procure a hospital car, to be supplied with cots and all necessary remedies and appliances for use in case of railway accidents.

During the intensely cold weather in the early part of last month there were two very disastrous fires here, and the waste of water, caused by people allowing their hydrants to run in

order to prevent them from freezing, together with the drain made by the Fire Department, caused a complete exhaustion of the high-service reservoir, and a consequent water famine at the Female Hospital, Insane Asylum, and Poor House. This necessitated hauling water with teams for three days at an expense to the city of nearly six hundred dollars.

Within five weeks a family of five persons, in the western part of the city, have died, one member after another being attacked with symptoms which rapidly grew worse and terminated fatally in a few hours. The first victim was an eight-months-old baby, who was taken with purging and vomiting, and died within a few hours. In returning from the funeral, the mother complained of feeling unwell. She grew rapidly worse, and died five days afterward. The cause assigned for her death was bilious fever. A few days later the oldest child, a boy of five years, was seized with similar symptoms and died; then the remaining child also died in the same way—congestion of the bowels being given as the cause of death in the physician's certificates. Now the father has just died with the same symptoms, having been ill two days; and the sister, who assisted in nursing the sick ones, is also quite ill. No cause has been discovered as yet for this remarkable fatality. The premises have been carefully examined, and there seems to be no evidence of local cause for the disease; nor have any evidences of poison been discovered.

I am informed that Dr. D. C. Gamble, who has been for a year past the St. Louis editor of the "Weekly Medical Review," has resigned, and will be succeeded by Dr. Julius Wise, whose name is familiar to those who have followed the course of medical journalism in the West during the last few years, as the first editor of the "Mississippi Valley Medical Monthly."

The St. Louis Medico-Chirurgical Society, at a recent meeting, adopted a number of amendments to the constitution and by-laws. This society has never before had a committee on ethics. By one of the amendments the Executive Committee is made the Committee on Ethics. It is to be hoped that this society will not become the scene of such rancorous discussion on questions of medical ethics as has been the case in the St. Louis Medical Society.

The Health Commissioner issued circulars, not long since, to all the physicians in the city, calling their attention to the ordinance requiring them to report to the Board of Health all cases of contagious and infectious disease, and notifying them of the penalty for neglecting to comply with the ordinance.

Proceedings have been instituted against several prominent physicians who have been negligent in this regard, and it is believed that more prompt observance of the ordinance will be the result.

PHYSIOLOGY AND HYGIENE IN THE PUBLIC SCHOOLS.—An absurd bill has been introduced into the Legislature of the State of New York, making a knowledge of these branches incumbent upon teachers in the public schools. When we consider how much of a subject a teacher ought to know in order to teach a little, it becomes evident that a corps of teachers competent to give instruction of this sort at all worthy of the name is utterly unattainable without a very large increase in the appropriations for school purposes. The bill is understood to have emanated from a temperance society, its prime object being to have the physical evils of dram-drinking impressed upon the minds of the young. However worthy the motive may be, the method adopted is not one that the State ought to enforce.

A NURSE'S MISTAKE lately caused the death of a patient in the lunatic asylum at Norristown, Pa. Carbolic acid was administered instead of the medicine ordered for the patient, although both bottles were labeled distinctly. The interpretation put upon the occurrence is that the nurse's mind was distracted by anxiety concerning a sick relative.

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THE COMING MEETING AT ALBANY.

THERE is reason to believe that the seventy-eighth annual meeting of the Medical Society of the State of New York, to be held in Albany on Tuesday, Wednesday, and Thursday of next week, will prove exceptionally profitable. In addition to the programme we have already published, several papers of interest have been promised. The complaint has often been made, either that the city men contributed little or nothing to the programme, or, on the other hand, that the New York specialists took up the greater part of the time, to the exclusion of the general practitioner, and especially of the country practitioner. It is not easy to see how the most determined of grumblers can apply either of these criticisms with any semblance of justification to the list that has been made up for this year's meeting. Indeed, a more even balance between the metropolitan and the rural elements could scarcely be imagined; and the same may be said of the ratio of the specialists to the general practitioners. It will be an evil day for the society when either of these elements of the profession in the State holds itself back out of pique, and it is satisfactory to find, as can safely be inferred from the list in question, that there is no present danger of such an attitude being assumed by either.

The scientific matter provided is ample for the most profitable employment of all the time at the disposal of the meeting, but there is little ground for the hope that a portion of the time will not be squandered in further action on the code of ethics. Unfortunately, the element of time so wasted will probably be small in proportion to the amount of intellectual activity thus diverted from what would ordinarily be the only legitimate channel. However, the ethical dispute must be settled one way or another. It is to be hoped that quick work will be made of it, and that votes rather than speeches will be recognized at the outset as the one thing in order. All the delegates and all the permanent members understand the questions at issue thoroughly, and it will be time absolutely thrown away to attempt to make converts by argument. It is desirable that the meeting should be a full one, in order to a decisive settlement; and there is little room for doubt that it will be. We look to see both parties gathered in force. Notwithstanding the recent organization of the New York County Medical Association, and the avowed purpose of the old-code party to form like societies in the other counties, and ultimately a new State society, it is inconceivable that that party would not vastly prefer to rule the old organization, with its unquestioned legitimacy, its prestige, and its legal status, rather than to pin its hopes of supremacy to the venture of a rival body made up of representatives from counties many of which can scarcely keep up

one society with any considerable approach to credit. This much may be said on general principles; in addition, we may point to the urgent appeals that have been published in the organs of the party. Reasoning from such considerations as these, the new-code party, for its part, will see the necessity of being on hand in full strength, in spite of its recent telling victories in this city.

The question as to the result of the contest ought not to be very difficult to answer. If the opponents of the old code do not suffer themselves to be deluded into a false sense of security, the action taken last year can not be reversed. A canvass of the State, undertaken by the old-code party, has, indeed, been widely proclaimed as showing that a preponderating proportion of the profession is in favor of the restoration of the old code; but it should be remembered that quite the same forecast was made, and on grounds apparently identical, in regard to the election in the New York County society, but proved fallacious. There is a large party in favor of abolishing all codes—the no-code party—but its members can probably all be counted upon to vote in favor of sustaining the new code under the present circumstances, for they feel that they are under fire, and, having taken a hand in the fight, they will not change their tactics in the presence of the opposing forces. It seems exceedingly probable, therefore, that the new code will be reaffirmed, and very likely by a majority greater than that of last year.

THE PROPOSED STATE EXAMINING BOARD.

THAT the dignity and interest of the profession in the State of New York demand a definite and uniform test for admission to its ranks there can be no doubt, and there is reason to believe that there is not much dissent from the opinion that the most practicable and equitable plan for applying such a test involves the creation of a State board of examiners. As to the precise constitution of such a board, and as to just how much power should be delegated to it, there is considerable diversity of opinion among earnest and thoughtful men. The problem is a novel one, and it would not be strange if the first attempts at its solution should fall far short of the mark.

The question ought to secure a good deal of attention from the State society next week, but whether the meeting will be properly prepared to take final action, in the form of a positive recommendation to the Legislature, is a matter of uncertainty. It seems to us to be desirable that no decided action in this direction should be taken until the better elements of the profession are practically agreed upon the leading details of the plan. We think it was wise, therefore, on the part of the Medical Society of the County of New York to take the course it took last Monday evening, when it declined to give its assent to a particular bill, but contented itself with a general declaration in favor of a State board.

The chief difficulties will be to harmonize the interests of the profession as a whole with the just claims of corporate interests, and to make the result of this adjustment acceptable to the people of the State. It is not to be imagined that a bill can be devised which shall quite embody the preferences of every

element in the profession, but the closest possible approach to such a desideratum ought to be made before the representative body of the profession in the State goes before the Legislature with a bill. Doubtless several bills will come up for consideration at Albany next week, and, so far as the attention of the meeting has to be diverted from scientific work, it can not employ its time to better advantage than in scrutinizing the drift of these various bills. Some may be offered that, far from promoting the real purposes of the movement, will secretly aim at thwarting it. Indeed, we have seen the draft of a bill that can not be interpreted otherwise—to the careless reader it would seem to promise no end of reform, but in reality it leaves things practically as they are now. It simply throws a sop to Cerberus. Its object is veiled with so flimsy a disguise that its promoters are quite likely to shrink from bringing it before the meeting, or seeking to get its indorsement by the profession in any other manner, but the meeting will fall short of its duty if it fails to drag it forth and expose its rottenness. There will be men present at the meeting who know precisely what we allude to, and they know, too, what the effect will be if the bill in question is allowed to go to the Legislature without having been unmistakably condemned by the profession. There is a suspicion, indeed, that its defeat is the real aim of its promoters, who would then spread the impression broadcast that no measure looking to the establishment of a State board could be got through the Legislature.

LARGE DOSES OF QUININE.

We would direct the attention of our readers to three articles in this issue of the journal, by Professor Smith, Professor Wright, and Dr. Winters, on the untoward effects that may sometimes follow the use of large doses of the cinchona alkaloids, taking quinine as the representative of the class. This agent has figured so largely in our therapeutics of late years, and has been found to be of such wide applicability in the treatment of disease, that there have been indications that it was likely to meet with that popular repugnance which the last generation bestowed upon calomel—a repugnance that seems to be born of the feeling that a drug so potent for good must necessarily have equal powers for harm. These popular antipathies are apt to rest on a groundwork of fact, but nevertheless their constant obtrusion in the physician's daily intercourse with patients undoubtedly cripples his freedom of action in the delicate field of therapeutics, and therefore his efficiency in combating disease. It is most unfortunate for any medicinal agent to be made the subject of such a prejudice.

Nothing could be more certain than that the three gentlemen to whose articles we allude view the matter in precisely this light. Indeed, Dr. Smith expressly deprecates any inference from his paper favoring a prejudice of this sort. At the same time, each of these gentlemen undoubtedly feels, as it is difficult to see how any one can avoid feeling, that the surest way to forestall an unreasoning clamor against a drug is to state candidly and faithfully the dangers that occasionally attend its use. There is another reason why, it seems to us, the writers

of the articles in question should be held to have done well in bringing their observations before the profession, and that is that, by pointing out what may be called the contra-indications to the cinchona alkaloids, they enable the profession to continue to use those drugs with a discrimination and a consequent safety that would otherwise have been lacking. We as a profession are not answerable for the imperfections of the agencies we use, but we should be culpable indeed if we failed to discover those imperfections, so far as possible, or to diffuse the necessary cautions to be drawn from a knowledge of them.

MINOR PARAGRAPHS.

A CAUTION TO SUBSCRIBERS.

It has come to our knowledge that a swindler is going about the country soliciting subscriptions for various medical journals, including the "New York Medical Journal." He takes care to collect the money, but those who give it to him do not receive the journal. The individual in question is, or pretends to be, a deaf-mute. So far as our information goes, the last scene of his nefarious operations is Dayton, Ohio, where he gave a victim a receipt signed "W. R. Taggart, for C. B. Slewin, of Fort Wayne." Those who wish to subscribe for this journal are informed that the person alluded to has no authority to solicit subscriptions for it, and that we know nothing about him except what has been written to us by his victims.

THE "ANNALS OF ANATOMY AND SURGERY."

We regret to have to record the suspension of this excellent journal. During the few years of its existence it has filled a place altogether unique in medical literature in this country, and perhaps one that is not filled in any other country, if we take into account the admirable historical essays contributed by Dr. Fisher, of Sing Sing. They dealt with the fathers of medicine, those old-time worthies about whom most of us know very little, but whose lives and whose writings it would be profitable for us to make ourselves acquainted with. The reason of the suspension is stated to be the departure of the editors for Europe. In their circular announcing the fact they hint that the publication may be resumed at the beginning of next year, and we trust that such may be the case.

A STEAMSHIP COMPANY'S STINGINESS.

On several occasions we have alluded to the unworthy treatment which steamship companies show now and then toward their medical officers. The latest and most flagrant instance that has come to our knowledge is that of the Red Star Line, sailing between Philadelphia and Antwerp, which compels the surgeons of its vessels to mess with the petty officers and second-class passengers. The opinion has been expressed that the medical officers of the line really have the matter in their own hands, and that they should not submit to such treatment. It seems to us, however, that they ought not to be left to cope alone with a powerful corporation, but that the profession at large should feel itself insulted through them, and should use its influence in every legitimate way to make the company feel that it has been too high-handed.

A SCARCITY OF ANATOMICAL MATERIAL IN CHICAGO.

The "Weekly Medical Review" states that there has been a decided scarcity of anatomical material in Chicago during the present winter, and that, in consequence, resort has been had to

the desecration of graves. According to the journal quoted, the deficiency seems to have been due to a defect in the law, which is simply permissive but not mandatory upon the county officials. So long as they were paid for their trouble in handling the bodies (at rather exorbitant rates, it appears) there was no trouble, but the colleges demurred, and then it was found that they could not compel the delivery of subjects.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 22, 1884:

DISEASES.	Week ending Jan. 22.		Week ending Jan. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	1	1
Typhoid Fever	7	3	8	2
Scarlet Fever	67	9	90	11
Cerebro-spinal meningitis	5	5	6	4
Measles	40	4	52	14
Diphtheria	36	16	59	20
Small-pox	0	0	1	0

SMALL-POX.—An Italian sailor was admitted to the Long Island College Hospital, in Brooklyn, on the 9th of January, and it is reported that three cases have since occurred in the institution as the result. All the patients were promptly removed to the Small-pox Hospital. The Illinois State Board of Health has called attention to the prevalence of the disease in Prague, through which city, it says, Bohemian emigrants leaving for America must pass on their way, the destination of most of them being Chicago and the Northwest.

THE ADJOURNED DISCUSSION ON PUERPERAL FEVER, being the discussion of Dr. T. Gaillard Thomas's paper entitled "The Prevention and Treatment of Puerperal Fever," published in our issue for December 15th, will be opened at the next meeting of the Academy of Medicine, to be held Thursday evening, February 7th, by the president of the Academy, Dr. Fordyce Barker, who will read a paper on the subject.

A RECEPTION TO PROFESSOR PARVIN.—The Alumni Association of the Jefferson Medical College, of Philadelphia, gave a reception in honor of Professor Theophilus Parvin, M. D., LL. D., at the St. George Hotel last Monday evening. The affair is described as having shown the well-known enthusiasm of the Jefferson men as it has seldom been shown before; and certainly such a display may well have been called forth by the accession of so strong a man to the faculty of their alma mater, and of so genial a gentleman to the Philadelphia profession.

THE MEETING OF THE STATE SOCIETY.—The secretary of the New York delegation informs us that he has made arrangements by which members, delegates, and other physicians in the city who intend to be present at the meeting can get return tickets to Albany for five dollars. Application should be made to Dr. Charles L. Dana, 66 West Forty-sixth Street. Dr. Dana feels quite sure that like arrangements can be made with the railways by physicians in other parts of the State.

The Hudson River Railroad trains from New York to Albany run as follows:

Leave New York.	Reach Albany.
8.40 A. M.	12.10 P. M.
10.30 "	2.40 "
3.30 P. M.	7.45 "
6.00 "	10.15 "

Most of the New York delegation will take the 3.30 P. M.

train on Monday, parlor-car accommodations having been secured.

THE HEALTH OF ATLANTIC CITY.—A report having been spread some weeks ago that scarlet fever was prevailing extensively at Atlantic City, the Board of Health of the town announces that there is not a single case within its limits.

A BUREAU OF ANIMAL INDUSTRY.—Under this title a board is proposed in a bill lately introduced into Congress, the functions of which shall be to prevent the exportation of diseased meat, and to provide for the extermination of the infectious diseases of cattle.

CREMATION IN BOSTON.—A cremation society has been organized in Boston, and it is said that authority will soon be asked for to establish a crematory in the vicinity.

THE LATE DR. J. MARION SIMS.—It is announced that a former patient of Dr. Sims's will give a bronze bust of the deceased surgeon, to be deposited in the new building occupied by the Harvard Medical School.

THE HUDSON RIVER STATE HOSPITAL FOR THE INSANE.—A bill has been introduced into the Senate appropriating \$45,000 for an addition to the institution. An Assembly bill appropriates the sum of \$45,000 to cover the cost of providing accommodations for fifteen hundred additional patients.

THE YALE COLLEGE BUILDINGS are pronounced to be in good sanitary condition by a committee consisting of Professor Chandler, of New York, and Professor Brewer and Dr. Lindsley, of the New Haven Board of Health.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—We learn that Dr. Ambrose L. Ranney has been appointed professor of applied anatomy.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending January 26, 1884:*

WHITING, ROBERT, Passed Assistant Surgeon, detached from the Hospital at Norfolk, Va., and ordered to the U. S. S. Colorado.

FITTS, H. B., Assistant Surgeon, detached from the U. S. S. Jamestown, and ordered to the Coast Survey Steamer Gedney.

ANDERSON, F., Passed Assistant Surgeon, granted leave of absence for six months.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, February 4th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Brooklyn Anatomical and Surgical Society (private); Utica (N. Y.) Medical Library Association.

Tuesday, February 5th: Medical Society of the State of New York (Albany—first day); New York Obstetrical Society (private); New York Neurological Society; Elmira (N. Y.) Academy of Medicine; Buffalo Medical Association; Ogdensburg (N. Y.) Medical Association.

Wednesday, February 6th: Medical Society of the State of New York (second day); Medical Society of the County of Richmond, N. Y.; New York Medico-Legal Society.

Thursday, February 7th: Medical Society of the State of New York (third day); New York Academy of Medicine (Adjourned Discussion on Puerperal Fever); Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Ocean, N. J. (Tom's River).

Friday, February 8th: Yorkville Medical Association (private).

Saturday, February 9th: New York Medical and Surgical Society (private).

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of January 28, 1884.

S. O. VAN DER POEL, M. D., President, in the chair.

THE DELEGATION TO THE STATE SOCIETY.—The By-Laws were suspended for the purpose of proceeding at once to the transaction of certain new business, and the secretary read the resignations of Dr. J. H. Ripley and Dr. Samuel Sexton as delegates, which, on motion, were accepted. Dr. F. R. Sturgis then nominated Dr. W. Gill Wylie to fill the vacancy created by the resignation of Dr. Ripley; Dr. Laurence Johnson nominated Dr. A. S. Hunter, and Dr. Carpenter nominated Dr. A. L. Loomis, to fill the vacancy created by the resignation of Dr. Sexton. Dr. Hunter having withdrawn his name, the secretary was instructed to cast an affirmative ballot for Dr. Wylie and Dr. Loomis.

A STATE MEDICAL EXAMINING BOARD.—Dr. STURGIS offered a resolution to the effect that the Medical Society of the County of New York was heartily in favor of the appointment of a State Board of Examiners, before which all future applicants for permission to practice medicine and surgery in this State must appear for examination, as embodied in a bill prepared by the Committee on Legislation of the Medical Society of the State of New York, and that it urged upon the Legislature the necessity for the speedy enactment of such bill.

As some doubt was expressed by several members as to the propriety of recommending any one particular bill, Dr. D. B. St. John Roosa offered the following substitute, which was unanimously adopted:

Resolved, That the Medical Society of the County of New York is in favor of the passage of a bill establishing a State Board of Examiners, who shall determine the qualifications for the license to practice medicine in the State of New York.

Resolved, That this resolution be transmitted to the Legislature of the State, signed by the president and secretary.

THE LATEST RESEARCHES IN EMBRYOLOGY.—Dr. CHARLES HEITZMAN then read a paper with this title, in which he briefly alluded to the views which had been entertained by different observers concerning segmentation during embryological development and the supposed destination of particular segments to the development of given portions of the animal body—views which, it had been supposed, went to support the doctrine of cell-development. This view regarding embryological development and the structure of the body, however, was becoming more and more unsatisfactory to the student of morphology, and lately Stricker had fully adopted the views which Dr. Heitzman had advocated for a number of years regarding the continuity of structure of animal tissues. This view, briefly stated, was that all the structures of the body were continuous; that there were no individual cells within the tissues in the common acceptance of that term; that living matter pervaded both what used to be called cells and also what had been called basement substance or cement substance. Since employing a solution of celluloid in his microscopical investigations, Dr. Heitzman had also been able to show distinctly that from the very moment of segmentation in the embryo the elements remain connected with one another, that the continuity was unquestionably by living matter, that the so-called granules were nothing more than points of intersection of the reticulum and the nuclei, and that they were composed of living substance.

Dr. E. C. SEGWIN testified to the value of celluloid in microscopical examinations, remarking that it constituted a cement which permitted of the most delicate section.

Dr. A. JACOB thought it probable that the apparent difference of opinion between Dr. Heitzman, Virchow, and others, was due in part to the employment of terms which failed to convey a definite idea of their meaning. For instance, Dr. Heitzman had frequently made use of the word *elements*, and it was a question whether it had not been employed to express the same idea which others would convey by the word *cells*.

After a few remarks by Dr. J. L. CORNING and Dr. C. E. NELSON, the discussion was closed by Dr. HEITZMAN, who, in reply to Dr. Jacobi's inquiry, explained what he considered to be meant by the cell theory.

A MEMOIR OF J. MARION SIMS, M. D., LL. D., was then read by Dr. W. GILL WYLIE. As the hour was growing late, Dr. Wylie read only a portion of the memoir. He was indebted largely for his information to an autobiography of Dr. Sims up to the year 1863, not yet published. He traced the history of his operation for the closure of vesico-vaginal fistula, his efforts to establish the Woman's Hospital, and the opposition encountered from a jealous profession, and alluded briefly to his reasons for resigning from the medical board of the Woman's Hospital and to the criticisms which had been offered against him. The author spoke of Dr. Sims's undaunted moral courage, his unbounded enthusiasm, self-reliance, definiteness of purpose, progressive mind, and regularity of habit. He never took wine, coffee, tea, nor condiment of any kind. Before he was attacked with pneumonia, in 1880, he showed great elasticity of body and ability to endure much physical fatigue.

On motion of Dr. W. M. CARPENTER, a vote of thanks was offered the memorialist.

Dr. A. JACOBI read a portion of a letter from Dr. A. Seibert, addressed to the Committee on Hygiene, asking the committee to send a circular to the physicians of New York and Brooklyn, with the request that they note down the exact date of the beginning of every case of primary croupous pneumonia coming under their observation from February 1, 1884, to February 1, 1885, also stating whether the patient at the beginning of the pneumonia was suffering from any catarrhal affection of the respiratory tract. Dr. Seibert's object was to make a collective investigation regarding this disease, but he wished at the same time to avoid the appearance of self-advertisement, and therefore requested that it be done in the name of the Committee on Hygiene, he to bear the expense. It had been stated by European writers that the reverse of what seemed to hold true in America regarding climatology and this disease held in Europe; but Dr. Seibert's studies went to prove, from their own statistics, that the observations of American physicians also held across the water. After some remarks upon the value of the collective investigation of diseases by Dr. Jacobi and the president, Dr. Jacobi's motion that the Committee on Hygiene send out such circulars was unanimously adopted.

NEW YORK CLINICAL SOCIETY.

Meeting of November 23, 1883.

Dr. J. WILLISTON WRIGHT, Chairman for the evening.

FOREIGN BODY IN THE ALIMENTARY CANAL.—Dr. ROBERT ABBE related the case of a child two years of age who had swallowed an English half-penny. He introduced a soft œsophageal bougie, which seemed to meet some obstruction in the lower part of the œsophagus, but finally passed into the stomach. Nothing metallic was felt with the instrument. He ordered the child to be given oat-meal and other dry food, and, four days after, the piece was passed in a mass of fecal matter. It was a little difficult to see how so large a body could pass the ileo-cæcal valve easily.

The CHAIRMAN thought trouble was rarely experienced from

this circumstance. He recalled two cases in which coins in the pharynx had produced distressing laryngeal symptoms by standing up edgewise. The introduction of the finger, and turning the body, had usually made its expulsion by coughing very easy.

EXTRA-UTERINE PREGNANCY.—Dr. J. H. EMERSON read the following history of a case:

"Mrs. G., twenty years old, married three years, had an abortion in February, 1882, at about two months, due, possibly, to her having been knocked down in the street by a horse some three weeks before. Late in the autumn of the same year she missed one menstrual period, but presented no other signs of pregnancy. The uterus was rather under size, with a tendency to retroversion, and a soft ring pessary was worn at times, with benefit. She was also subject to a very moderate degree of leucorrhœa, which the use of hot vaginal douches, sometimes with solution of alum, easily controlled. She was vivacious, active, and fond of society and excitement, and at times over-exerted herself and suffered from backache, which rest or counter-irritation soon relieved. With these exceptions, she was a healthy woman, and led a healthy life. She menstruated last during the last week of August. September 29th, she complained of not feeling as strong as usual, and of having rather more leucorrhœa, and I advised her to take tincture of iron and to use an astringent vaginal injection gently. I also urged gentle exercise out of doors. She remained in the country, and I being in town, her husband reported to me on October 16th that she said the use of the injection had on two recent occasions given rise to a good deal of pain in the back, so that she was unwilling to use it again, although the leucorrhœa was still troublesome. She was now also so timid in regard to exercise, and so easily tired, as to be very unwilling to take any until after the time for the next period, as she believed herself pregnant. The breasts were tender and enlarged. I agreed with him to go to see her on the following day, intending to make a vaginal examination and use whatever local treatment might be required. I received a telegram from her, however, postponing my visit, and subsequently a note saying she felt stronger and was averse to any local treatment at that time.

"I heard nothing further from her until October 30th, when I received a telegram, late in the afternoon, asking me to go to her as soon as possible. I reached her bedside at a little after 7 p. m., and found her in a state of collapse. She had passed the menstrual period, which should have occurred the week before. She had eaten her breakfast on the morning in question, and had felt well enough to engage to dine at a neighbor's. Soon after breakfast she had pain in the 'stomach,' i. e., high in the abdomen, which she attributed to indigestion. Later on this became more severe, and was located much lower down, in the hypogastric region, and rather to the left side. She had also been chilled at times, and often bathed in profuse perspiration. She was slightly nauseated. Through the day there had been three free but not loose movements of the bowels, the urine passing with the stools. There had been no red discharge from the vagina. A local physician had been called in, who had advised small doses of valerian and of carbonate of ammonium. Shortly before I arrived she had taken some beef-tea, the first nourishment of the day since breakfast. When I saw her I found a mere thread of a pulse at the wrist, and the whole body was drenched in perspiration. The extremities were kept warm only by constant rubbing and external heat. She lay upon her left side with her feet rather drawn up; her respiration was shallow, but not very rapid; her mind was perfectly clear, but she made but little complaint of pain. I gave brandy by the mouth at once, also a pellet containing one eighth of a grain of morphine and one one hundred and fiftieth of a

grain of atropine. I then sent for a hypodermic syringe, and gave brandy subcutaneously, and applied mustard and hot fomentations to the præcordia, to relieve the dyspnoea, which was distressing at times. I also wrapped her in hot blankets, etc., but all the effects of these measures were but trifling, and she grew steadily weaker. Between eight and nine o'clock she said there was a flow, and I tried to make a vaginal examination. She was unable, however, to change her position, and I only learned that the uterus was moderately enlarged, and that the bloody discharge was very slight—hardly enough to stain the finger. Nothing could be learned by palpation of the abdomen, owing to her position and the pain caused by very light pressure upon the lower part of the abdomen. She died at 10.30 p. m. An autopsy could not be obtained, and I gave a certificate of death from intra-peritoneal hemorrhage, probably due to rupture of a cyst of extra-uterine pregnancy."

Dr. J. E. WINTERS met with a case last summer in which the symptoms were almost identical with those given by Dr. Emerson. The patient was seized with severe symptoms early in the morning, and died at three in the afternoon. The autopsy showed an ovarian pregnancy, the sac of which had ruptured.

Dr. E. L. PARTRIDGE thought the presence of uterine discharge in these cases not a very important factor in diagnosis. The absence of pain was undoubtedly due to the shock. He hoped to see the time when laparotomy would be attempted in these cases in hospital practice, as this would at least give one chance of life where now the patient seemed to have none.

In response to an inquiry by Dr. Abbe, Dr. EMERSON said he thought the patient would not have borne ether.

HYSTERICAL PERIODICAL RIGORS.—Dr. GASPARD GRISWOLD related the history of a lady who had had regularly for a number of months a chill every Tuesday evening. It was preceded by headache and aching in the bones, and came on between twelve and one o'clock. The chill was severe, was followed by a fever lasting three or four hours, and then a profuse sweat. The temperature had once been taken on the morning following and found to be 104° F., and on another occasion 102.5°. A little malaise, however, was the only thing generally present, and this passed off in a day or so, and the patient was well until the next Tuesday night. On the supposition of malaria, quinine was given in full doses preceding the expected attack. Warburg's tincture was also tried. Nothing had the slightest influence. Pilocarpine hypodermically was next tried just as soon as the premonitory signs of the rigor began to manifest themselves. The attack was aborted by this means, though it was sometimes necessary to give as much as three fifths of a grain before the effects of the drug were produced. On the following week the paroxysm recurred regularly in spite of it. The pilocarpine was kept up for nine successive weeks without any permanent improvement. Bromide of potassium in large doses, once as much as 3 ss. a day, was several times combined with the pilocarpine, but without any change. This had been done because he had become convinced of an hysterical element in the case, although the patient showed no manifestations of hysteria in the interval. At the time of the attack there were constipation and scanty urine—on one occasion slight retention for twelve hours. He raised the question whether it was possible for a patient to have a temperature as high as 104° F. from hysteria alone, as he was now convinced of an hysterical element in the case.

Dr. WINTERS had recently read a report of a series of cases in which periodical chills had occurred. Some were found to depend on gall-stones, some on renal calculus, others on the most diverse causes. None of them had recurred with such regularity and so long as in the case reported.

Dr. NORRIS, who was present by invitation, said a case,

which was regarded by both the visiting and the house staff as one of pure hysteria, was observed in St. Luke's Hospital a few years ago in which the temperature rose repeatedly to 104° F., and even higher. It was carefully watched for a long time.

BRONCHO-PNEUMONIA WITH LOW TEMPERATURE.—Dr. L. E. Holt reported a case illustrating the development of the strumous diathesis after vaccination in a child previously healthy, and, as a sequence of this, an acute broncho-pneumonia which proved fatal in ten days. The interesting features of the pneumonia were the great prostration which attended it and the remarkably low temperature. It had ranged from 99° to 100.5° F. the greater part of the time, and only once rose above 101°, about twenty hours before death.

Dr. WINTERS thought these low temperatures in acute inflammations were not very infrequent in children.

The CHAIRMAN suggested that the inflammation might be analogous to surgical shock, and that the low temperature was from the depression of the nervous system. He thought the development of the strumous diathesis after vaccination was an unquestioned fact, even when the virus was pure.

THE DANGER OF LARGE DOSES OF QUININE.—Dr. A. A. SMITH read a paper on this subject. [See page 115.]

Dr. BEVERLEY ROBINSON entertained similar views as to the inordinate use of quinine, especially in typhoid fever. Its general action was to lower the heart and arterial tension in full doses. He had often been struck with the fact in autopsies that the degeneration of the heart did not bear any constant relation to the height of the fever in febrile diseases. In many cases where the temperature had been high it was slight or absent, while it was often present to a marked degree where the temperature throughout had been low. He was aware that many authorities taught that prolonged high temperature was sufficient to produce cardiac degeneration. He withheld quinine in all cases where there was a tendency to heart failure. In one patient with phthisis, a young lady, who was taking from twenty to thirty grains of quinine a day, syncopal attacks came on repeatedly for which no cause could be found. The quinine was finally stopped, and they were promptly arrested. As quinine had such a decided action on the ear, he always avoided full doses of it in diphtheria, where there was such a tendency to ear complications.

The time for adjournment having arrived, the further discussion of the paper was postponed until the next meeting.

Meeting of December 28, 1883.

Dr. GEORGE L. PEABODY, Chairman for the evening.

ADJUTENED DISCUSSION ON THE DANGERS OF LARGE DOSES OF QUININE.—Dr. J. H. EMERSON asked if any cases were on record in which death was distinctly traceable to the abuse of quinine, and, if so, what lesions had been found.

Dr. A. A. SMITH said he knew of no recorded cases. He himself had seen one, however, and another member of the society had met with one. The bad effects of the drug were produced through the nervous system. Hence no post-mortem changes would be expected.

The CHAIRMAN sustained this view. The heart after high temperature was flabby and in diastole, whether quinine was administered or not.

Dr. SMITH read a report of three cases furnished by Dr. J. W. Wright in which large doses of quinine had produced alarming symptoms. [See page 116.]

Dr. KATZENBACH mentioned the case of a man of sixty-eight who presented all the usual signs of fatty heart. Of late he had suffered from chilly sensations, and sometimes loss of consciousness and slight fever, these symptoms recurring with regularity on alternate days. The friends were convinced that the patient

had malarial disease. He had been taking quinine in tonic doses, and this was increased to gr. xxii a day. These attacks were controlled by the drug, and unpleasant symptoms occurred. He raised the question whether fatty heart or other organic cardiac disease would be any contra-indication to the use of large doses of quinine in malarial fevers.

Dr. SMITH thought a tolerance of quinine existed in all malarial diseases. He thought, however, that in cases like those mentioned it was advisable to administer some counteracting drug to sustain the heart. As stated in the paper, he preferred opium to any other. He would like to ask Dr. Katzenbach whether his patient was taking any other drug than quinine at the time.

Dr. KATZENBACH said he was.

Dr. SMITH asked if it was digitalis.

Dr. KATZENBACH said it was convallaria, but that he attributed very little of the improvement to its use, as the patient had taken it for some time before without any marked benefit.

Dr. L. E. HOLT asked whether Dr. Smith had found any difference in the effects upon the heart of the different cinchona alkaloids.

Dr. SMITH replied that he had never used cinchonidine extensively, but was of the opinion that the danger was about the same in all.

The CHAIRMAN stated, in response to an inquiry, that a number of cases were recorded where quinine had produced death in animals. The cause was usually paralysis of the heart and respiration.

PNEUMONIA WITH GASTRO-INTESTINAL DISTURBANCE.—Dr. SMITH mentioned a case of pneumonia occurring in a man of twenty-two, who had partaken largely of lobster-salad the night before. Six hours later he had a chill, with vomiting and purging. It seemed at first a case of cholera morbus. The temperature rose, however, to 105° F., and the pulse to 140, and physical signs soon declared a pneumonia of the left lower lobe. In the evening of the third day a most intense gastro-intestinal pain developed. It was so severe that the pulse rose to 164, and the patient seemed likely to go into collapse. Morphine was given hypodermically in successive doses, but no relief was obtained until gr. 1½ had been taken. No bad effects were experienced from the drug, and the pulse dropped to 140 and was much stronger. The patient was now convalescent. He attributed the pain to the lobster-salad.

Dr. ROBINSON raised the question of the use of opium in extensive lung and renal disease. It had seemed to him that it often produced bad symptoms in both conditions. Although there was little doubt that opium under many circumstances was a powerful heart stimulant, he questioned its utility in any case where the lung was disabled to an extreme degree, but particularly in acute phthisis. On three or four occasions this winter he had seen, in cases where opium seemed indicated, such patients made worse, and even cyanotic, from its use.

In a case of advanced nephritis which he had just seen, in which the patient was suffering from absorbed pus, probably from the kidney, although small doses of morphine had controlled the vomiting, it had seemed on the whole to do harm. He asked the experience of the society on the subject.

Dr. SMITH thought opium invaluable in all acute lung diseases. The special indications for its use were pain, marked restlessness, and a dry skin. He had used morphine, the deodorized tincture of opium, and paregoric, and hardly knew which preparation was the best in these cases. In chronic phthisis it was useless as a cardiac stimulant, but valuable to allay the cough, etc.

In advanced renal disease it was capable of doing a great deal of harm.

SPASMODIC STRICTURE OF THE OESOPHAGUS.—Dr. D. BEYSON DELAVAN related the following case: The patient, a lady of forty, was struck in the neck about a year ago by a carriage-pole while crossing a street. She was knocked down, but received no serious injuries. Some swelling and ecchymosis occurred at the side of the neck, the seat of the blow. She now suffered from great difficulty in deglutition, which was marked at the upper end of the oesophagus. When this point was passed the act was easy until just before the bolus passed into the stomach. An oesophageal bougie passed easily into the stomach. On attempting, immediately after, to swallow a glass of water, the spasm was marked. She was despondent, having been treated in various ways without benefit. He prescribed the mixed bromides in gr. x. doses three times a day. After a week the spasm disappeared, and had been noticed only once since that time. She had now been under treatment three weeks. He mentioned a case he had seen reported recently which had resisted all treatment until the uvula, which was much elongated, was amputated. Prompt disappearance of the spasm followed. In his own case the uvula was normal.

ERYSIPELAS AFTER VACCINATION.—Dr. HOLT mentioned a case of erysipelas occurring six weeks after vaccination, the ulcer being at the time not quite healed. The case presented some unusual features at the outset, the blush not appearing until the third day. He raised the question of the relation of the two diseases.

Dr. F. P. FOSTER thought the relation was not nearly so close as was generally supposed. There was nothing special about a vaccine wound or a vaccine ulcer which rendered the patient liable to erysipelas. It occurred about these as about other wounds and ulcers. He had been impressed with this fact by a case mentioned to him some years ago by Dr. S. S. Purple. A day had been set for vaccinating a child, but for some reason it was postponed. Precisely eight days thereafter the child was taken with erysipelas at the left deltoid insertion, and died.

Dr. HOLT referred to some cases which had been recently reported in the "British Medical Journal" in which erysipelas was communicated by vaccination. A child, whose arm showed no signs of the disease, furnished lymph from which two others were vaccinated. In a few days it developed erysipelas, and died. Both the other children had erysipelas, and one died.

Dr. FOSTER did not wish to be understood as saying that erysipelas could not be communicated by vaccination. In the cases alluded to, and in others with which he was familiar, the transmission was undoubted. He had known scarlet fever to be communicated to the vaccinee while the vaccinator was still in the incubative stage. The fact that this was possible was enough to condemn the practice of arm-to-arm inoculation.

L. EMMETT HOLT, M. D., *Secretary.*

NEW YORK MEDICAL AND SURGICAL SOCIETY.

A **STATED** meeting was held December 8, 1883, Dr. THOMAS F. COCK chairman for the evening.

RAPID DEVELOPMENT OF HYDROCELE.—Dr. A. C. POST said that a man came to his clinic the day of the meeting with a large swelling of the scrotum, said to have developed within the past two months. It was unattended with pain or disturbance of the general health. The tumor, which was larger than the fist, was found to be a hydrocele. From eight to eleven ounces of fluid were withdrawn, and a mixture of half a drachm each of carbolic acid and glycerin was injected. Dr. Post had never before known a hydrocele to develop to such a size in two months.

CONGENITAL INGUINAL HERNIA, COMPLICATED WITH UNDESCENDED TESTICLE; REMOVAL OF THE TESTICLE, FOLLOWED BY APPARENT CURE OF THE HERNIA.—Dr. F. N. OTIS related the following case: Not long since, a farmer, about thirty-five years old, had been sent to him by Dr. Fanning, of Stony Brook, Long Island, complaining of great difficulty in wearing a truss for inguinal hernia. The trouble was found to result from the presence of an undescended testicle. He stated that, from infancy, there had been a slight swelling in the inguinal region. But little was done for it until he was twelve years old, when a physician discovered that it was a hernia, and, reducing it easily, applied a truss. This caused a good deal of pain, and it was then found, on closer examination, that there was only one testicle in the scrotum. The other one was discovered just below the external ring, and was movable, but it was not situated low enough, and could not be pushed up high enough to allow of the use of a truss without pain. The hernia was of considerable size.

When the man consulted Dr. Otis, November 13, 1883, he was considerably reduced, and had an expression denoting habitual suffering. He said he had tried various kinds of trusses, but they all produced intolerable pain if worn continuously for more than a few hours. The hernia always protruded to the size of a hen's egg on the slightest departure from the horizontal position, but it was readily reduced, the ring being very large. The testicle was found lying on the aponeurosis of the external oblique muscle, between it and the superficial fascia, and movable, from an apparent point of attachment at the border of the external ring, nearly three inches downward—to just within the scrotum, and upward to a point opposite the anterior superior spine of the ilium. It was somewhat atrophied, being about an inch by three quarters of an inch in its diameters, and quite sensitive on pressure. The patient was very desirous of having it removed and the hernial opening closed at the same operation. He had been married several years, and his only child was three years old.

Dr. Otis believed that the testicle was of little use, and that it would be entirely proper and safe to remove it, as it apparently had no direct connection with the peritoneum. He was not so much inclined to operate on the hernia at the same time, however, and he asked that Dr. Markoe be called in consultation. Dr. Markoe agreed with him entirely. Rather more than three weeks ago he removed the testicle. It was pushed up as high as possible, and out toward the border of the ilium. On cutting through the skin and the superficial fascia, the testicle protruded with its coverings. The cord was readily drawn out to the extent of about two inches and a half, and was secured while excision was performed. The vessels, evidently considerably atrophied, were then tied. There was but little hemorrhage. The wound was sponged with a solution of bichloride of mercury (1 to 1,000), and a carbolized-gauze compress and a spica bandage were applied. The patient had been subject to attacks of vomiting at times, and on such occasions he had been unable to retain the hernia within the abdomen by any means. He vomited a good deal after coming out from the effects of the ether, considerable pain was complained of, and, on removing the bandages, the hernia was found to have descended. It was easily reduced, the compress was replaced, and the patient did perfectly well for nine days. On the tenth day he was permitted to get out of bed and lie on a lounge near by. Immediately on doing so he complained of pain near the external ring, the point to which the cord had probably retracted. There was tenderness, followed by swelling, and the temperature ran up to 102° F. The wound had healed completely, the stitches having been removed on the sixth day. The swelling referred to reached to about half the size of a pullet's egg, and

on the thirteenth day, just before the time set for opening it, the pus was discharged from the lower edge of the wound. The temperature then fell, the wound healed up, and the man was now about, wearing a truss and feeling well. It had been noticed that the patient's general condition was one favoring suppuration, as manifested by the occurrence of an alveolar abscess, which required the removal of a defective tooth. To counteract this suppurative tendency, sulphide of calcium was given, in doses of a tenth of a grain, every half hour. About two ounces of pus escaped from the inguinal abscess, and warm applications were employed. There was no more suppuration, adhesion of the walls of the abscess took place promptly, and the associated induration disappeared within a week. It was found that the external ring had been closed completely by the inflammatory exudation consequent upon the formation of the abscess; neither standing nor coughing caused any hernial protrusion. However, the truss was recommended to be re-applied and worn for some weeks, and the patient, apparently well in every respect, was sent home.

There appeared no good reason in this case why an early operation should not have saved the patient years of suffering. In the fourth edition of Curling's work on "Diseases of the Testicle" (London, 1878) the following case would be found, bearing on this point:

"In the spring of 1858 W. M., aged thirty-one, came under my care at the London Hospital in consequence of suffering pain in the right groin when lifting heavy weights. I found the seat of pain to be a small testicle in a closed sac, containing two or three drachms of fluid, situated just outside the abdominal ring. I advised the removal of the organ, but, the patient having lost all pain during rest in bed for a few days, and the swelling having diminished, he declined the operation, which I did not press upon him. He again applied to me some months afterward, on account of pain and increase of the hydrocele in the groin, but, as it subsided under rest, he still refused to submit to an operation. The frequent recurrence of pain after active exertion at length became so annoying that in October, 1859, he requested me to excise the testicle, which I did. The organ was small and inclosed in a sac which extended up to the inner ring, but did not communicate with the peritonæum. He recovered quickly, and was completely relieved. The left testicle was in its proper position in the scrotum.

"Stromeyer, the distinguished German surgeon, sent me the particulars of a case of inguinal hernia, complicated with detained testicle, in a nobleman aged twenty-three. A truss could not be borne, and the patient could neither dance nor ride on horseback, a state which formed a great obstacle to his career. Stromeyer, in 1841, proposed an operation, which was to consist either in the separation of the bands which kept the spermatic cord in its shortened state, or eventually in the removal of the testicle. The operation was objected to. Twenty years later he was called to this nobleman, in consequence of his being in great danger from an incarcerated hernia, which was relieved without operation. It appeared that he had been treated by Larrey and Cloquet for similar attacks, and, as Stromeyer remarked, the patient would have been saved twenty years' pain and misery if the testicle had been removed in his youth.

"The excision of the testicle was performed, in 1845, in a case of retained testicle with hernia, related by Gosselin. It occurred at the Hôtel Dieu, in the practice of Blandin. The patient had suffered severely since the age of fourteen, and became so much discouraged by the repeated attacks that, at twenty-eight, he desired to have the testicle removed. Blandin would not consent to the operation, and tried a truss applied above the testicle, with the view of fixing it. During the following eighteen months the patient was frequently troubled, and had an attack of strangulation, which was relieved by the taxis, and also orchitis with acute inguinal hydrocele. Seeing no end to his sufferings, he insisted on the removal of the testicle, which was done, with complete relief. The vaginal sac was found distinct from the hernial sac.

"These cases are related that, under similar circumstances, the sur-

geon should not hesitate to advise the removal of a retained gland which is very rarely capable of performing its proper functions."

OVER-DISTENSION OF THE BLADDER MISTAKEN FOR AN OVARIAN TUMOR: ESCAPE OF A CATHETER INTO THE BLADDER.—Dr. T. A. EMMET had received a letter one Sunday afternoon asking him to meet the writer as soon as possible in consultation regarding a case of ovarian tumor which had existed some six or eight weeks. Dr. Emmet remarked, on receiving the letter, that he could not imagine how an ovarian tumor could develop to a marked size in so short a time. The following Wednesday afternoon was fixed for the consultation, and, when he was about to enter the room, a young physician from the neighborhood met him, having been called in hastily while the woman was in convulsions. He said that, as the patient had not passed much water during the day, he hastily put together the two sections of a silver catheter which he had in his pocket, not having the third section with him, and began to draw off the urine. About a quart having escaped, he turned to empty the vessel, when the catheter was sucked from between his fingers up into the bladder. Dr. Emmet found the woman in deep coma. The abdomen was enormously distended, as much so as in any case of ovarian tumor which he had ever seen. The walls were so tense that he could scarcely obtain fluctuation, although it was evident that the distension was due to fluid. He sent out for an elastic catheter, with which he emptied the bladder, whereupon the tumor disappeared. An enormous amount of urine was withdrawn. After the bladder had been emptied, the silver catheter was felt projecting against the abdominal walls as through an ordinary sac. He had little difficulty in removing it with the forceps unobserved. It seemed that before Dr. Emmet saw the patient she had been about the house, and there had been some vesical irritation, supposed to be due to the presence of an ovarian tumor. She was about thirty-four years of age. This was the second case that he had seen in which the catheter had been sucked up into the over-distended bladder during catheterization, and he asked if there was any explanation of a tendency to this accident in this condition. The case was interesting also from a diagnostic point of view. The patient had been going to the closet oftener than usual for nearly two months, passing a little water each time, but there was constantly developing a greater degree of vesical distension, which had been mistaken for an ovarian tumor by one who, under ordinary circumstances, certainly would not make a mistake regarding a tumor of the ovary. Dr. Emmet thought that, as a specialist, he himself might have been misled as to the true condition. He was told that the patient finally died in an apoplectic seizure, the result of renal disease.

Dr. Post said that he had once been called to make a post-mortem examination in the case of a female child, four or five years of age, supposed by the attending physician to have been suffering with incontinence of urine. He found the bladder enormously distended with urine, and extending as high up as the umbilicus.

VESICAL AND URETHRAL IRRITATION IN RETRO-UTERINE CELLULITIS TREATED BY "BUTTON-HOLING" THE URETHRA.—Dr. EMMET also presented the histories of two cases which led to the following remarks: By accident he had noticed that in certain cases, calling for his operation of button-holing the urethra, vesical irritation, which had previously existed, had been relieved, and cellulitis, existing in the region of the utero-sacral ligament, had been rendered easy of treatment. Many women suffered from vesical irritation to such a degree that they became opium-eaters for the relief of pain, and the cause was found to rest in an intractable cellulitis posterior to the uterus. If allowed to go on, they not only became confirmed opium-eaters, but what at first was only an irritation would finally result

in an inflammation of the bladder and of the kidneys, and in death. During the past autumn he had treated as many as five or six cases of vesical and urethral irritation by making a button-hole opening into the urethra, which speedily resulted in relief of this symptom, and enabled him to treat the retro-uterine cellulitis successfully. The operation might seem a heroic one for so simple a condition as urethral irritation, but it was by no means so formidable as it might appear; moreover, it was for the relief of a symptom which was liable to lead to the more serious conditions already referred to. If the opening were not extended up into the neck of the bladder, incontinence of urine would not result, the patient would have no trouble in passing the urine, and, indeed, he seldom had an opportunity to close the opening again, as the patients experienced no inconvenience from it during micturition.

In reply to a question as to the *rationale* of the treatment, Dr. Emmet said it was probable that the pelvic cellulitis caused exudation and adhesion, which produced more or less traction upon the structures connecting the urethra with the pelves, and that the operation relieved this traction, thus permitting freer circulation in the pelvic tissues. Whatever might be the true explanation, the clinical fact was beyond doubt, as he had witnessed in as many as twenty cases, and the operation had come to be a common one with him in the treatment of cases of vesical irritation with inflammation behind the uterus.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(Concluded from page 112.)

NITRO-GLYCERIN AND THE CHLORIDE OF GOLD AND SODIUM IN THE TREATMENT OF ALBUMINURIA.—DR. BARTHOLOW also read the following paper:

Hitherto the therapeutics of renal diseases has not advanced in the same ratio as our knowledge of their pathology. It can not be said now that a cure has been found, but that two remedies of real value are available. My contribution to this symposium on albuminuria consists in an attempt to define the place which these remedies should occupy in a curative scheme. To do this, in even the briefest way, I must clear the ground with a preliminary statement.

I start with the proposition that those renal lesions united by the common symptom—albuminuria—are of neural origin. There is a kinship between diabetes and Bright's disease. One of these is sometimes substituted for the other; and during the course of some rare cases of exophthalmic goitre this substitution occurs. Irritation of a certain part of the floor of the fourth ventricle is followed by glycosuria; of another part by albuminuria. The recent observations of Da Costa and Longstreth prove that a relation exists, whether casual or sequential, between certain renal lesions and degenerative changes in some ganglia of the abdominal sympathetic. The hypertrophy of the muscular coat of the arterioles, discovered by Dr. George Johnson, and the increased tension of the vascular system due to an irritation of the vaso-motor center in the medulla, both present in the chronic forms of albuminuria, are further evidences of the agency of the nervous system. It was, more especially, the condition of elevated tension of the vessels which led to the use of nitro-glycerin. This remedy before all else reduces the vascular tension. It also lessens the work of the heart by removing the inhibition exercised by the pneumo-gastric nerve.

This remedy appears to have been first used by Mr. Robson, an English surgeon, in cases of albuminuria, and by him employed, because the high tension of the vascular system has proved to be so pronounced an element in the more chronic cases. I have myself seen some remarkable instances of relief

—indeed of cure—effected by it. If time were now available, I could give some striking examples. In cases of mitral disease accompanied by albuminuria it also renders the highest service, for the diminished peripheral tension lessens the work to be done by the heart, and assists in the more equal distribution of the blood. The effect of this in relieving the renal congestion is obvious.

Chloride of gold and sodium has quite another function. It has long been known that this remedy has a special direction to the genito-urinary apparatus. The ovarian and uterine organs in the female, the testes and vesiculæ seminales in the male, are stimulated by it, and the kidneys, by means of which it is eliminated, and in which it tends to accumulate, are decidedly affected by it in function and structure. In common with some other agents of the class to which gold belongs—for example, corrosive sublimate—the chloride acts on connective tissue and checks its over-production, or its hyperplasia. It would be quite impossible in this note to go over the evidence on these points, and hence I must ask your assent to these statements. They have been accepted as true of gold, from the days of the alchemists and iatro-chemists, as any one may ascertain from that curious collection of mediæval medical learning—the “Anatomy of Melancholy.” It has happened, strangely enough, that Hahnemann and his followers have profited by this knowledge, and have used gold preparations—especially *aurum potabile*—in the treatment of renal diseases with success.

How and when are these remedies to be used?

Nitro-glycerin is now administered, as all present know, in the form of the centesimal solution—1 minim of the pure drug to 100 minims of alcohol. The initial dose of this one-per-cent. solution is one minim, which should be increased until the very characteristic physiological effects are produced. The susceptibility to the action of nitro-glycerin varies greatly, and hence the dose can not be stated in advance. It is necessary to produce some obvious effect. To maintain the same level of action, a slight increase in the dose may be required from time to time. As the effect is not lasting, the interval between the doses should not exceed three or four hours.

The administration of nitro-glycerin should begin in acute cases immediately after the subsidence of the acute symptoms. It is indicated in chronic cases at all periods, but is more especially useful if given before hypertrophy of the muscular layer of the arterioles has taken place. When it acts favorably, the amount of albumin in the urine steadily diminishes. The mechanism of its action consists in the lowering of the pressure in the renal vessels. How far any curative effect proceeds from action of this remedy on the sympathetic system remains to be determined.

Chloride of gold and sodium is indicated in the subacute and chronic cases, especially the latter. The earlier it is given the better, if structural changes are to be prevented or arrested. The good effects to be expected from it will depend necessarily on the extent of the damage already inflicted on the kidneys.

The usual dose is $\frac{3}{16}$ grain twice a day, but this may be much increased if necessary. At the outset, $\frac{1}{16}$ grain may be given; in a week the dose should be lowered to $\frac{1}{32}$ grain, and after a month the regular dose of $\frac{1}{16}$ grain should be steadily pursued, with occasional intermissions. Indigestion, gastralgia and colic pains, nausea or diarrhœa, are occasionally caused by it; and, if so, the quantity administered must be reduced. It is usually borne without any discomfort, but, after prolonged administration, salivation, weakness, emaciation, trembling, and other nervous phenomena may occur possibly. Such effects, however, are wanting in my experience.

The treatment of albuminuria by nitro-glycerin and the chloride of gold and sodium does not necessitate the exclusion

of other means—hygienic, climatic, or dietetic. These remedies should, however, be given uncombined at different hours, and their actions should not be hindered or obscured by the effects of other agents given with like purpose. To this general statement there may be two exceptions: with nitro-glycerin, amyl nitrite or sodium nitrite may be given; with the gold-and-sodium chloride, corrosive sublimate may be combined. If doubts may be felt in regard to the propriety of depending on the utility of these remedies, they need not be long experienced, for, if no good effects are observed in two weeks, they may then be discontinued.

THE SUPPOSED CONNECTION BETWEEN EAR DISEASE AND KIDNEY DISEASE.—Dr. CHARLES H. BURNETT read the following paper:

Early writers on disease have shown a knowledge of the fact that alterations in hearing occur in the course of general diseases—as, for example, in diseases of the kidneys. It was supposed by them that the alteration in the functions of the ear, in this form of disease, was due to changes in the auditory nerve. But the results of the more reliable modern investigations tend to show that, if an ear disease be due to a kidney disease, the lesion usually occurs in the tympanic cavity and not in the auditory nerve.

Certainly accidents of a hæmorrhagic or apoplectic form nature might be expected either in the tympanic cavity or internal ear in Bright's disease, when we reflect upon the deterioration of the blood, and upon the malnutrition and friability of the vascular system, in the later stages of the malady. Further, as Bright's disease is characterized by a tendency to inflammation, especially in serous membranes, and as the membranous structures of the internal ear, or labyrinth, belong to this class of membranes, very naturally organic change in these tissues might be looked for in Bright's disease of the kidneys.

However, as late as 1856, Rau, in his "Ohrenheilkunde," published in Berlin in that year, claimed that there was not a solitary reliable observation at that time on record in favor of any symptomatic relation between the ear and the urinary organs.

In 1869, Schwartz* reported a case of extravasation of blood into the tympanum, as peculiar to Bright's disease, though of rare occurrence, and, in the same year, Dr. G. M. Smith, of New York,† "called attention to the fact that impairment of hearing was at times one of the symptoms of Bright's disease, and a symptom which could not be explained by referring it to uræmia."

In 1873, Dr. Roosa, of New York, in his treatise on the ear, refers to an obstinate case of suppuration and pain in the middle ear in a man, sixty-one years old, suffering from Bright's disease. In this case it was supposed that the effect of the renal disease upon the tympanic vessels was the cause of the acute suppuration, and it was also supposed that the disease in the drum cavity was originally hæmorrhagic in nature. The subject was deemed of enough importance to place a physician on his guard for renal disease in cases of hæmorrhage into the tympanic cavity.

It must not be forgotten, however, that there is a purely sthenic form—otitis media hæmorrhagica—occurring in subjects entirely free from kidney disease, in which the only effusion is pure blood, the removal of which from the tympanum by paracentesis is followed by cessation of pain and return of hearing.‡

Again, in 1878, Schwartz* states that serous catarrh of the tympanic cavity is found in syphilis, heart disease, pneumonia, Bright's disease, naso-pharyngeal catarrh, and apparently may be due sometimes to vaso-motor disturbances. The same author says hæmorrhages into the labyrinthine cavity and the membranous labyrinth occur in kidney diseases.

Also, that extravasations of blood into the tympanum (hæmato-tympanum) occur spontaneously with acute inflammations in morbus Brightii, cynanche diphtheritica, and in endocarditis verrucosa recens et ulcerosa (*op. cit.*, p. 94).

Dr. Paul Pissot,† in an inaugural thesis, is disposed to consider three forms of aural disease, which may arise in Bright's disease, viz.: tinnitus aurium, partial deafness, and complete deafness. His conclusions are that affections of the hearing may arise at the beginning or during the course of the renal disease. Intermittence seems to be characteristic of these forms of deafness, which may be contemporaneous with the oedema, or may precede it. They appear with all forms of the disease, and are manifested with variable intensity. But he can not say to what special lesion of the ear, or of the nerve of hearing, their symptoms are attributable. Delacharrière, a responsible aurist, examined the cases upon the history of which the thesis is based, and found rupture of the membrana tympani, abnormal vascularity of the manubrium, and sclerosis of the tympanum, and was disposed to regard the conditions as causative forces. Pissot held that the hypothesis of Rosenstein, according to which there is oedema in the course of the auditory nerve within the cranium, may explain the intermittence and variations of intensity in these morbid manifestations. This latter process may be analogous to the oedema of the glottis and vocal cords noted in Bright's disease by Fauvel, in 1864. A similar symptom has been noted by Sée.

In alluding to chronic, non-suppurative aural catarrh in children, von Troeltsch‡ says: "A greater blood pressure from increased action of the heart, as in Bright's disease, must necessarily produce a certain hyperæmia, even in the mucous membranes of the head."

Albert H. Buck,§ of New York, expresses the opinion that in some instances a serous fluid, deeply tinged with the coloring matter of the blood, finds its way into the tympanic cavity through other than inflammatory causes. "Instances of the latter form of disease are very rarely met with, and then usually in connection with a depraved state of the general nutrition, as in morbus Brightii."

Dr. Maurice Raynaud|| expresses the opinion that diabetic otitis is not only more frequent than is supposed, but that, when this has once become a well-known fact, it may prove a pathognomonic index, like anthrax, diffuse phlegmon, and certain erythematous eruptions about the genitals, and arouse suspicion of the presence of the renal disease hitherto unsuspected. He cites a case of well-marked diabetes mellitus in which there suddenly occurred, one evening, a severe earache, after the patient had been in the hospital two weeks, and most carefully watched, so that no chilling could have been the cause of the ear pain. The pain became intense, and toward midnight of the same evening in which the pain set in there occurred an abundant hæmorrhage from the

* "Pathological Anatomy of the Ear," J. O. Green's Translation, pp. 97 and 157.

† Thèse pour le doctorat en médecine. Faculté de Méd. de Paris, April 4, 1873.

‡ "Diseases of the Ear in Children," J. O. Green's Translation, 1882, p. 67.

§ "Diagnosis and Treatment of Diseases of the Ear," New York, 1880, p. 164.

|| Clinical lecture at La Charité, Paris. "Annales des maladies de l'oreille," etc., March, 1881.

* "Archiv f. Ohrenheilkunde," Bd. iv, p. 12.

† N. Y. Acad. of Med. See Roosa's "Treatise," 1873, p. 257.

‡ Roosa, "Transactions of the Am. Otol. Soc.," 1872, and O. D. Pomeroy, *ibid.*, 1875.

drum-cavity of the affected ear, which was followed by immediate relief. This was followed for several days by a copious sero-sanguinolent, and then serous discharge, which contained leucocytes and albumin, as shown by heat, but no sugar. Post-mortem examination, twenty-three days after the attack of otitis, revealed a large perforation in the anterior segment of the membrana tympani, red, fungous, and bleeding mucous membrane in the drum-cavity, in which there was a pink, purulent liquid. The ossicles were not dislocated, but were imbedded in granulations, and near the stericp was a clot of blood. The mastoid cavity was filled with a rose-colored liquid, containing pus-cells, and its bone substance was greatly injected and marbled, presenting all the appearances of inflammation of bone tissue. The labyrinth showed no alterations. The author concludes that otitis in the petrous bone is a peculiar and constant symptom of diabetic otitis.

P. McBride,* in an article devoted to the consideration of the various causes leading to aural disease, states that "occasionally the ear is affected in Bright's disease by hemorrhage into the tympanic cavity. The tympanum becomes filled with blood, which probably either becomes absorbed or leads to suppuration. Schwartz was perhaps the first to observe this condition." McBride further says: "I am not aware that sudden labyrinthine deafness in the course of Bright's disease has been described, but it seems probable that such a contingency might be looked for here and also in pernicious anemia, in which retinitis hemorrhagica is not uncommon."

In the recently published work of Professor Politzer† on the ear, the author's experience is that, in cases in which a supposed connection existed between the organic renal disease and an aural malady, the fundamental cause lay in very apparent changes in the middle ear. He has also found that "catarrhs of the ear run an unfavorable course in tuberculosis, Bright's disease, and all cachexie by which the nutrition of the general system has become deteriorated."

Conclusions.—1. Evidences in favor of either frequent or well-marked aural lesions, dependent upon renal diseases, are extremely meager.

2. Those lesions in the ear which have been found in connection with Bright's disease and diabetes mellitus, and which may have been dependent upon the dyscrasia induced by these renal disorders, are in the form of sero-sanguinolent and hemorrhagic effusions into the drum-cavity. But the latter must not be mistaken for the sthenic form of otitis media hemorrhagica.

3. From the serous nature of the membranous structures of the labyrinth, organic changes might reasonably be expected in Bright's disease, but positive proof of the occurrence of such lesions based on ante- and post-mortem history is wanting.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEEDMAN HILL, M.D.

LECTURE ON OPHTHALMOLOGY AND ORBITAL IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, SURGEON TO THE NEW ARMY AND NAVAL DISPENSARY; OPHTHALMOLOGIST TO THE U.S.A. & FREE HOSPITAL FOR CHILDREN AND OF THE SOCIETY AND CHILD'S HOSPITAL.

NEURASTHENIC ASTHENOPIA AND SO-CALLED ANESTHESIC RETINÆ.—Wilbrand's paper is an exhaustive résumé of a sub-

ject that has been much discussed ("Arch. of Ophth.," xii, 3 and 4). The object of the paper is to show: 1st. That in neurasthenic patients, along with copious disturbances, we find all grades of symptoms of so-called anæsthesia of the retina. 2d. That these symptoms, on the part of the nervous elements of the eye, are due to the same causes as are the analogous symptoms manifested by the same patient in other parts of the body. 3d. That it is a mistake to regard anæsthesia retinæ as an independent pathological condition. The most prominent symptom in cases of neurasthenic asthenopia is the peculiar form of contraction of the field of vision more toward one side than the other. The duration of the attacks of obscured vision is usually but a few minutes, and it is very difficult to fix the precise degree of diminution of vision, which shows extreme fluctuations. There is marked inability to use the eyes for any length of time at close work. There are occasional diplopia and transient, slight ptosis.

A PECULIAR ANOMALY OF THE OPTIC NERVE.—Purtscher ("Arch. of Ophth.," xii, 3 and 4) reports a case of a peculiar condition of the optic nerve in one eye of a young man aged twenty. The anomaly consisted in the sudden elevation of a sector, and especially of the vessels of this part, almost two thirds of a millimetre above the normal level. The image of the lower part of the optic nerve resembled that of choked disc, but any pathological condition was excluded by its monocular character, and especially by its limited extent; moreover, all the functions of the eye were perfectly normal.

A CASE OF ECTOPIA OF THE EYEBALL BY OSTEOPHYTES FROM THE ROOF OF THE ORBIT.—Birnbaeh's case ("Arch. of Ophth.," xii, 3 and 4) is rare. It occurred in a young man, aged seventeen, who in early youth had suffered from hydrocephalus. The right eyeball was displaced downward and outward from its normal position by osteophytes growing from the upper wall of the orbit as a sequence of disease of the frontal sinus, under which, through absorption of the walls of the frontal sinus, an emphysematous tumor afterward appeared in the region of the eyebrow. These osteophytes were removed by an operation through the lid, the line of incision being made horizontally through the lid and parallel with the upper orbital margin. The bony combs were loosened and removed by the chisel, and the roof of the orbit and interior of the frontal sinus carefully smoothed by the rasp. The result was satisfactory.

OCULAR LESIONS AFTER INJURIES OF THE BRAIN AND SPINAL MARROW.—Nieden's article ("Arch. of Ophth.," xii, 3 and 4) is of considerable interest. His first case was one of fracture of the base of the skull, amaurosis of the left eye, temporal hemianopsia and paralysis of the external rectus muscle of the right eye, and supposed partial rupture of the chiasm. As there was abolition of the hearing power on the same side, there was probably a fissure extending from the middle of the sphenoid into the petrous portion of the right temporal bone, implicating that part of the abducens nerve of the same side which passes through the cavernous sinus. The second case was a perforating wound of the left temporal bone, paralysis of the left abducens nerve, right hemiplegia without loss of sensibility, and sensory aphasia. The assemblage of symptoms exhibited by the patient points to a direct injury of that part of the cortex comprising the gyri centrales and the paracentral lobule. The third case was one of concussion of the brain and spinal cord, followed by progressive spinal ataxy, exophthalmus of both eyes, and atrophy of both optic nerves. This case ended in a slow improvement of the general condition.

THE EYE DISTURBANCES IN TABES DOSSALIS.—Schmeichler ("Arch. of Ophth.," xii, 3 and 4) has quite an exhaustive article on this subject. In the beginning of the process, when

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† Cassell's English Translation, Philadelphia, 1885.

vision is but slightly diminished, no change is found aside from the discoloration of the papilla. If the process has already reached a certain intensity and the visual power is considerably diminished, the vertical vessels are found intact, but sometimes the transverse vessels are found in fewer number. If the atrophy be already far advanced, one or more veins are seen to be wider than normal. After a duration of the optic nerve atrophy for years, the papilla is often found decreased as a whole and the vessels narrowed. The acuteness of vision is not in direct proportion to the ophthalmoscopic appearances. If the atrophic process has begun, the visual acuteness sinks within a few months to a minimum, decreases gradually till only quantitative perception remains, and ordinarily remains stationary at this point; rarely does complete amaurosis occur. The condition of visual acuteness in tabes differs from that of multiple sclerosis in sinking much lower. The characteristic visual field is the one with concentric limitation. In tabes the entire optic nerve is uniformly affected. The most peripheral portions of the retina, which also normally have a lesser visual power, become functionally disabled at the beginning of the disease; afterward, those nearer the center. A very important diagnostic feature is color-blindness, or rather insensibility to color. Not the slightest vascular disturbance has ever yet been found with beginning tabetic atrophy with good visual power. The pathological process in tabetic atrophy begins simultaneously in the nerve, chiasm, and tract, or it affects the peripheral segment. With the atrophic process, the part of the optic nerve over the lamina cribrosa shrinks to a thin layer of fibrous tissue. The arteries remained unchanged, but the veins gradually expand to fill the space caused by the shrunken nervous tissue. The disturbances of the pupil in tabes are: 1, reflex iridoplegia; 2, absolute iridoplegia; 3, myosis; 4, inequality of the pupils. By reflex iridoplegia is understood the lack of pupillary reaction to light; with total iridoplegia, the reaction on convergence is also absent. By spinal myosis is meant the narrow pupil found with disease of the spinal cord. The pupillary inequality is a very striking symptom; of all changes in the pupil it is the most frequent. The disturbance of the ocular muscles in tabes consists in paresis of one or several. It begins almost always with the very first symptom of tabes, but may precede it by many years. It very frequently appears suddenly, though it usually develops gradually. It may remain constant, or may disappear after several months, leaving no trace behind. The path of tabetic sclerosis is determined by the course of the arterial vessels. This particular paralysis is met with in no other form of spinal disease.

A CASE OF RIGHT-SIDED HEMIOPHIA AND NEURO-RETINITIS, CAUSED BY A GLIOSARCOMA IN THE LEFT OCCIPITAL LOBE.—FANCY ("Arch. of Ophthal.," xii, 3 and 4) reports a case of this nature occurring in a woman aged twenty-one. When he first saw the patient she could barely count fingers at 8' eccentrically with the left eye, and here the field of vision was contracted in its upper, lower, and outer portions, and absent altogether in its nasal half. In the R. E. V = $\frac{3}{8}$, temporal half of field absent and field impaired upward, inward, and downward. The optic discs were swollen and dirty-white in color. The movements of both eyes were normal, as were also the general sensibility and motion of the extremities. The existence of a tumor at the origin of the optic nerve seemed the most plausible diagnosis, and this was supported by the absence of motor paralysis and by the pain felt in the occipital region. The patient died comatose in about a month, the coma having been preceded by convulsions. At the autopsy, the dura mater was adherent to the left occipital lobe in one place, which represented an hemispherical prominence above the surrounding level about 3 cm. in diameter. At the corresponding part of the skull there was

a smooth depression which penetrated the entire thickness of the bone. The posterior portion of the left hemisphere showed also a considerable depression, which occupied the posterior portion of the parietal lobe and the whole occipital lobe. It extended forward to the vicinity of the posterior central gyrus. The depression was caused by the evacuation of several tablespoonfuls of a clear, yellowish fluid when the brain was taken out. The above-mentioned prominence of the left occipital lobe was of a reddish-yellow color, soft and smooth. The tumor extended forward close to the parieto-occipital sulcus. On the median side the tumor was firmly connected with the pia, was of a pale-gray color, and adhered partially to the cerebral substance. A sagittal section of the hemisphere through the middle of the tumor showed immediately below the latter a large cavity surrounded by a smooth, transparent membrane. The cyst had a diameter of 8 cm. in length by 8 cm. in width. From the lower wall of the cyst a membranous cord ran through the cyst like a bridge, and was apparently attached to the region of the external tumor. At the external prominence the wall was occupied by a tumor, 2 cm. in thickness, soft, pale, of a transparent, reddish-gray color. In the center of this tumor was a large, dark-red and soft nodule, as large as a hazel-nut, which merged into a large quantity of vascular villi connected with each other by a loose neoplastic substance. The great ganglia, thalamus opticus, corpus striatum, nucleus lenticularis, chiasm, and optic tracts were unaltered. The tumor was a soft gliosarcoma, and most probably started from the interior of the occipital lobe in the vicinity of the posterior cornu, perhaps from the ependyma, and grew gradually toward the surface. The broad, longitudinally folded band which passed through the cyst was denser than the inner lining of the cavity. The case is interesting for the reason that the cerebral tumor, having existed probably for years, remained perfectly latent for so long a time. Besides the hemianopia, no additional symptoms of a circumscribed brain disease were developed until the fatal issue.

THE REPRESENTATION OF THE LIMITS OF THE VISUAL FIELD.—Hilbert ("Arch. of Ophthal.," xii, 3 and 4) considers that visual fields mapped out on the board are the most serviceable to practitioners. A perfectly correct representation of the configuration of the visual field is possible only when it is registered on the perimeter of Scherk. He regards the visual fields entered on perimetric charts as distortions. He thinks that the angles belonging to a visual field mapped out on the board may be computed without difficulty, and that a visual field given by a list of its angles admits of an easy construction of its surface projection. The projection of the macula lutea should be the center of the field of vision.

COMPLETE APHASIA WITH RIGHT HEMIPLEGIA AND HEMIOPIA, AND AGRAPIA: CURE OF THE PARALYSIS AND RETURN OF SPEECH, BUT PERSISTENCE OF THE HEMIOPIA, AGRAPIA, AND WORD-BLINDNESS.—ARNAUD ("Recueil d'ophtalmologie," November, 1883) reports a very interesting case of this kind in a man aged sixty-six. The patient awoke one morning with complete right hemiplegia and entire loss of the power of speech. He seemed to partially understand what was said to him, and answered by signs, but was plunged into a sort of hebetude. After two months the paralysis began to disappear, and, four months later, the patient had recovered entirely the use of his limbs. He was still dumb, and could not perform any manual labor. He remained in this condition for two years and a half, when he suddenly regained his speech, and from this moment he began to lead a new life. He complained that the right half of his visual field had disappeared at the beginning of his trouble, and so remained. Four years after the trouble began, his intellectual faculties were apparently normal, but his writing was

childish, and he did not recognize a single letter. He has never forgotten figures, and can read them and make mental calculations. He recognizes all colors. The ophthalmoscope showed nothing abnormal. From a purely clinical standpoint, and in view of the correlation which has existed between the various symptoms of a cerebral lesion located with some degree of probability, and absolutely compatible with life, the case is of considerable importance; for it produces a strong belief that the motor center for the leg and arm of the right side, the centers for articulate speech, for the memory of words and of names, and finally for vision in the right half of the visual field, are situated close to one another. The case accords perfectly with the theory of the semi-decussation of the optic-nerve fibers in the chiasm.

VISUAL TROUBLES DUE TO THE ABUSE OF TOBACCO.—Galezowski ("Recueil d'ophtalmologie," November, 1883) returns to the charge in a short paper. The nicotine intoxication generally produces no organic alteration in the eye, and the only perceptible ophthalmoscopic sign is a simple paleness of the papilla due to spasm of the blood-vessels. If, however, the disease is prolonged indefinitely, there are produced certain degenerative changes in the optic-nerve fibers, and finally an atrophy of the papilla. The most characteristic signs of nicotine amblyopia are: myosis, diminution of visual acuity, central scotoma sometimes extending far toward the periphery, which may lead to complete blindness, more or less prolonged, chromatic scotoma, chromatic phenomena, and chromopsia.

DIFFERENT VARIETIES OF DETACHMENT OF THE RETINA, AND THEIR TREATMENT.—Galezowski ("Recueil d'ophtalmologie," November, 1883) begins his paper on this subject by asserting that a detachment of the retina can not occur without the liquefying and softening of the vitreous humor, and without the development of a partial, circumscribed, serous choroiditis in the anterior segment of the choroid, and especially in the ciliary circle. These two conditions are met with in myopic eyes much more frequently than in hypermetropic or eumetropic eyes. This fluidity of the vitreous is not usually general, but limited to the infero-external or supero-external sector, or to the external half, or to isolated regions of the vitreous. When the vitreous is fluid, and a vessel ruptures near the surface of the retina, the extravasated blood runs into the vitreous and sinks in clots. A serous effusion from the choroid may infiltrate the retina, lift it up, and cause a sort of retinal suffusion, without there being any detachment, if the vitreous is not fluid; but, as soon as the latter becomes disintegrated, the detachment takes place. A blow on the eye or a lacerated wound of the sclerotic or internal membranes of the eye, with or without the loss of vitreous, may cause an immediate detachment, if the eye is myopic and the vitreous fluid. If, on the contrary, the eye is hypermetropic or emmetropic and the vitreous is not fluid, the detachment of the retina does not occur until several months after the receipt of such an injury, because time is demanded for the softening and disintegration of the vitreous, which oftentimes follows a series of inflammatory attacks in the iris and ciliary region. This change in the uveal tract is not a simple alteration of the epithelium, but a kind of cyclitis or choroido-cyclitis, circumscribed and limited to a segment, a quarter or a half of the uveal tract, which produces grave alterations in the secretory vessels of the eye.

SINUS THROMBOSIS.—Landsberg ("Centralblatt für prakt. Augenheilkunde," November, 1883) reports an interesting case of this nature in a young man of twenty-one. The patient had frequently suffered from epulis. In September, 1873, he had a similar attack, with swelling of the right cheek and upper lip. A few days later the conjunctiva of both eyes became oedematous. On September 10th Landsberg saw him and found him

so affected as scarcely to be understood. He could not stand alone, and could scarcely take a few steps with assistance. The pupils were moderately dilated and very sluggish; the ocular conjunctiva was pale and oedematous; the right was slightly protruded and completely amaurotic, and the left still had perception of light. The ophthalmoscope revealed nothing abnormal in either eye. An incision into both orbits revealed no pus. On the same night the patient became delirious, and died comatose. No autopsy was made, but the rapid course of the process, its extension to the visual centers and almost complete destruction of vision, without the occurrence of any symptoms pointing to an acute intra-cranial lesion, all point to a diagnosis of sinus thrombosis, probably combined with a meningitic exudation.

A CASE OF PERSISTENCE OF THE FETAL VESSELS OF THE VITREOUS.—Hirschberg ("Centralblatt für prakt. Augenheilkunde," November, 1883) reports a very rare case of this kind occurring in a woman sixty years old. In front of the optic disc and the neighboring retina of the right eye was a shallow, cup-like veil, with no perceptible motion; a very delicate vascular network with but little connective tissue, which proceeded by numerous branches from the physiological excavation of the disc. These branches divided very rapidly and formed anastomoses, and ended finally at the edge of the cup in capillary loops. The arteries could not be distinguished from the veins. The outline of the optic disc was very indistinct. The retinal veins were normal in appearance, but there was but one arterial branch, which ran toward the nasal quadrant. Hirschberg regarded the case, not as one of newly developed vessels, or as a detachment of the retina, but as a case of unusual development of the fetal blood-vessels in the vitreous.

ERYTHROPSIA IN APHAKIA.—Benson ("Ophthalmic Review," December, 1883) reviews all the cases hitherto published, and adds some of his own. He criticises Purtscher's views with reference to the visual acuity in these cases. In all the cases recorded by Purtscher the visual acuity was not less during the attack than it was before or after. If torpor for sudden colors were the true cause, one would expect to find the visual acuity diminished in proportion to the illumination lost; and, as compound white under equal illumination is visible at a greater distance than any of its components, were the red vision due to torpor for other colors, the acuity should be proportionately diminished. Moreover, the intensity of the color is against the fatigue theory, for it is hardly to be conceived that the retina would be so totally insensible to the other colors of the spectrum while having a sensibility so intense for red. In blindness from snow or the electric light, where fatigue, or at least over-stimulation, would seem to be the obvious cause, red vision is not produced. Moreover, in aphakial erythropsia, conjunctivitis is never observed.

EXOPTHALMIC GOITRE, WITH CASES.—Russell ("Ophthalmic Review," November and December, 1883) has here published a series of observations on exophthalmic goitre, based upon twenty-three cases. In six cases general nervous derangement was absent or not mentioned, but in fifteen it was of a decided character, and in eight of the fifteen it overshadowed the other symptoms. In one patient passionate irritability, great willfulness, and hysterical outbursts were combined with obstinate sleeplessness. The phenomena presented by the other cases varied somewhat, but were of an urgent character in all; excessive morbid irritability was the most common symptom; general tremor, dislike of strangers, obstinacy, depression and hypochondriasis, and loss of self-control, were all present. In seven cases the disorder was of the same character, but less severe. In six patients emaciation attained a very advanced stage, in some of them with remarkable rapidity. In one case

emaciation made such alarming progress as to reduce the patient almost to a skeleton in the course of six weeks; the appetite was capricious, but the patient did not refuse food; recovery from this state of attenuation, when once it set in, was even more remarkable from its rapidity; and during its progress the patient exhibited an equal degree of obesity with an inordinate appetite. In twelve patients, either no loss of flesh was experienced, or no mention is made of such an occurrence having taken place. No relation appears to have existed between the degree of nervous and nutritive derangement. Among the eight cases of severe neurotic disorder there were but three in which nutrition had been seriously depressed, while in four either nutrition had been unaffected, or no mention is made of any change of this character. The theory which explains the palpitation, the proptosis, and the goitre by disorder or disease of separate centers, is confirmed by the fact, among others, of the marked want of relation to each other which these three classes of symptoms often present. Thus, of twenty-three cases of Graves's disease, goitre was certainly absent or of questionable existence in six; of these six cases palpitation was extreme in four and proptosis existed in a great degree in one, was absent in one, and was moderate in degree in the others. In four cases out of the twenty-three, proptosis was absent or its presence was not certain. In one of these four cases goitre was also absent, in three it was of large size; in three of the four cases palpitation was severe, in one it was of moderate character. The heart symptoms, specially caused by deranged action, were present in various degrees in all the twenty-three cases. There are also great differences in the order with which the three symptoms of palpitation, proptosis, and goitre make their appearance. In one of the four cases previously alluded to, in which there was no evidence of proptosis, lachrymation was present. In three other cases the eye symptoms were chiefly, if not entirely, limited to an abnormal widening of the palpebral aperture; in two of these the heart symptoms were severe, in one the goitre was large. As regards treatment, Russell has gained the best results by means of iron, strychnine, and cod-liver oil. This tonic treatment may be materially assisted in producing a good effect by a rigidly enforced quietude and by careful nursing.

THE TREATMENT OF "KÉRATITE EN BANDELETTE," OR FASCICULAR KERATITIS.—Prouff ("Revue clinique d'oculistique," January, 1883) gives the following signs of fascicular keratitis, or "kératite en bandelette": 1. Its starting-point near the periphery of the cornea. 2. Its progress in a straight line toward the center of the cornea by means of a slow and continuous ulceration. 3. The development of parallel vessels along the gray basis of the ulceration. 4. Uniformity in breadth of the little band throughout its entire extent. He recommends the following method of treatment: Seize the ocular conjunctiva by a pair of forceps close to the base of the vascular band and lift it away from the eyeball, and then cut this off by a single stroke of the scissors, including in the section, if possible, episcleral tissue and conjunctival limbus. The nutrient vessels are thus divided, and the amelioration of this very chronic form of keratitis is almost immediate.

CLINICAL STUDY OF PRIMARY TUBERCULOSIS OF THE UVEAL TRACT.—Eperon, in this paper ("Archives d'ophtalmologie," Nov.-Dec., 1883), has taken his material for investigation from the clinic of Landolt. His observation was confined to those cases in which the uveal tract was primarily and exclusively the seat of a tuberculous infiltration, usually of slow progress. In one case the tuberculous infiltration was confined to the anterior part of the uveal tract, and at first so deep in the tissues as to be inaccessible to direct examination. It developed rapidly, however, and within a month had caused such grave altera-

tions in the eye as to necessitate its enucleation. There was, however, no other tuberculous point of infiltration in any other part of the body, and the patient was cured by the enucleation of the eye. In a second case the disease was relatively benign in character. In cases of this kind hitherto reported, the diagnosis of tuberculous irido-cyclitis has been rendered easy by the presence of other symptoms—such as ganglionic enlargement, catarrh of the apices of the lungs, tubercular ulcers, infiltrated iris, etc. The ophthalmoscope is not of much assistance, because the infiltration is in front of the ora serrata. Eperon thinks that, when tubercles are easily distinguished in the posterior part of the eyeball, the case is not one of localized ocular tuberculosis, but must be regarded as a prodromal manifestation of a tubercular meningitis or of a generalized miliary tuberculosis. Eperon also thinks that the tubercular virus generally reaches the uveal tract by the anterior lymphatic channels of the eye, and that the aqueous humor is its immediate reservoir. He recommends the early enucleation of the eye as the only remedy in the ocular tuberculosis of infancy and childhood. On the contrary, in the chronic ocular tuberculosis of youths and adults, he thinks we are authorized in trying tonic medication with appropriate hygiene. Operative treatment, in the form of iridectomy, has given a certain amount of success, which, if not permanent, has been tolerably lasting.

PERSISTENCE OF THE HYALOID ARTERY AND PUPILLARY MEMBRANE, DETERMINING INTRA-OCULAR CHANGES WHICH SIMULATED A NEOPLASTIC GROWTH.—Vassaux's paper ("Archives d'ophtalmologie," Nov.-Dec., 1883) is very interesting. The case occurred in a male child fifty-four days old, which had been examined clinically with very great care, and the presence of an intra-ocular tumor diagnosed. The eyeball was enucleated and submitted to a very careful and extended microscopic examination, and no gliomatous tissue was found. Certain plastic changes in the vitreous, together with a persistent hyaloid artery and pupillary membrane, had produced an appearance which clinically resembled strongly that of glioma. Vassaux's paper concludes as follows: 1. The so-called signs or symptoms of Beer, Mauthner, Siehel, and Brière are not pathognomonic of intra-ocular cancer. 2. The persistence of the hyaloid artery with organization of its anterior extremity may clinically simulate this disease. 3. The organization of the anterior extremity of this artery causes complete inversion backward of the ciliary processes, rupture of the zonule, and luxation forward of the crystalline lens. 4. The persistence of the hyaloid artery and pupillary membrane causes the following changes in the lens: anterior and posterior cortical cataract, or liquefaction, swelling and rupture of the lens. 5. The hyaloid canal should not be considered as formed by the hyaloid membrane, but by the lymphatic sheath which surrounds the hyaloid artery.

HEMERALOPIA DEPENDENT ON AN ATYPICAL FORM OF RETINITIS.—Dor ("Archives d'ophtalmologie," Nov.-Dec., 1883) has an interesting paper upon permanent non-essential hemeralopia occurring in retinitis pigmentosa or in those forms of latent retinitis in which the ophthalmoscope reveals no lesion other than a slight diminution in the caliber of the vessels. There is a very considerable narrowing of the visual field. In one case examined by Dor the retina presented a whitish-gray reflex as far forward as the equatorial region, where the red reflex remained. The line of demarkation between the two colors was by no means well-marked, and was very irregular. The vessels were normal in size and color, as was also the disc. There was no differentiation of the macula. In this case the pathological change was posterior to the bacillar layer, as there was very little disturbance of vision and no scotoma, and the lesion was probably in the pigment layer.

(To be continued.)

Miscellany.

THERAPEUTICAL NOTES.—*Carbolic Acid in Diphtheria.*—In the January number of the "Therapeutic Gazette" Dr. F. C. Herr, of Philadelphia, speaks highly of the corrosive-sublimate treatment of diphtheria by a method which, he says, was introduced by Dr. Linn, of Pennsylvania. In the case of a child under ten years of age the drug is given in doses of from one sixteenth to one twelfth of a grain every two to four hours. The administration of the remedy is continued until the exudation has disappeared, unless salivation takes place—an occurrence which the author thinks is not likely to be met with so long as the system is under the influence of the diphtheritic poison. However, the use of the mercurial should be discontinued if improvement is not shown after a few doses have been given.

Kalrine.—An editorial article in the "British Medical Journal" for January 12th gives a short sketch of the chemistry and the physiological action of this alkaloid, together with an account of the results obtained with it by a number of clinical observers. About the same ground has already been covered in this journal, and it is only necessary to add that the objections to the drug as an antipyretic are shown to be very considerable. It is expensive, disagreeable to the taste, and decidedly transitory in its action—to say nothing of the utter failure of some observers to confirm the high estimate of its powers formed by Filehne. Our contemporary thinks it will have its day, and then fall into disuse.

The Antagonism of Alcohol and Strychnine.—According to the "Lancet," a recent discussion in a French temperance society tended to bring out the fact that the antagonism between these two agents does not extend to any mitigation of the ulterior effects of alcohol on the system by giving strychnine at the same time. It was allowed, nevertheless, that a person who had taken alcohol in quantity sufficient to produce drunkenness under ordinary circumstances would not show its effects if he were under the influence of strychnine also.

Pyrologeneous Acid in the Treatment of Ringworm.—At a recent meeting of the French Academy of Medicine, M. Besnier ("Gazette hebdomadaire de médecine et de chirurgie," January 11, 1884) reported upon a memoir on the treatment of the tinea, by Dr. Cramoisy, of Paris. Alluding to the necessity of reaching the depths of the hair follicles in cases of affection of hairy parts, M. Cramoisy expressed the opinion that epilation was usually of little avail, in consequence of the difficulty of removing the hairs entire, rendered brittle as they were by the action of the parasite. He would therefore discard the practice, and seek for some penetrating agent; and this, he thought, was to be found in pyrologeneous acid. He used a solution of one part of red oxide of mercury, two parts of salicylic acid, and one thousand parts of pyrologeneous acid. M. Besnier remarked that pyrologeneous acid was not inferior to a number of the applications in common use for tinea of the varieties that usually did well, but that he could not admit that it had any superiority over the others. As for favus and the intractable forms of trichophytosis, no application could take the place of a thorough mechanical removal of the parasite and the exfoliation of those layers of the epidermis in which it was lodged. He therefore saw nothing special to be gained by the use of pyrologeneous acid, and, moreover, it was necessary to inculcate caution in its use; it should not be applied to large surfaces at a time, as it might produce denuded spots that would be susceptible of inoculation.

THE BOARD OF HEALTH AND ADULTERATED TEA.—Judge O'Gorman, of the Superior Court of this city, rules very technically on the powers of the Board of Health to prevent by injunction the sale of adulterated articles of food. In the case in question, a cargo of Pingsuey teas was under examination, and the judge found as a fact that they were "found to be colored green heavily by means of mineral matter composed of Prussian blue. They contain soapstone ground to powder, clay called terra alba, or gypsum, sand or gravel and ash, and, in many instances, 'he tea,' which is a substance made to imitate tea, and composed of unround, exhausted, and rotten leaves, filth, the sweepings of factory floors, and rubbish of all kinds, cemented together with starch or other adhesive substance, and made into particles resembling tea." Notwithstanding these facts, the judge decided that: "The claim that

these teas were wholesome and deleterious, because composed of foreign matter liable to contain poisonous germs impossible of detection, was not followed by proof that the adulterations were positively and actively poisonous or detrimental to health. Besides, there is no evidence that the quantity of these foreign substances likely to be consumed in the ordinary mode of using tea would be enough to injure health, or that some of them would be taken into the stomach at all—sand or gravel, for instance, which would be likely to fall to the bottom of the cup—and it was somewhat remarkable that, notwithstanding the fact that the quantity of these Pingsuey teas recently imported amounts to nearly one third of all the teas which arrive in this market, there was no evidence to show that any one had suffered in health from drinking them."

Judge O'Gorman does not hold, however, that the public are absolutely without remedy in the matter, although he declines to issue an injunction, but says that there are other legal means by which the sale of food or drink proved to be injurious to the public health can be punished and prevented.

DIASTASIS AT THE ELBOW IN CHILDREN.—In the course of a recent clinical lecture ("Med. Times and Gaz."), Mr. Jonathan Hutchinson remarks that partial separations of the epiphysis are very much more common than complete ones, and much more difficult to diagnose. Any part of the epiphysis may give way, the central part or either of the condyles. In some cases, in addition to the separation, at some part of the epiphyseal area there is an oblique fracture of the shaft. We must be prepared for all sorts of complications. If there is any obscurity about a case, we may be sure that it is one of injury to the epiphysis—an uncomplicated dislocation is easy to recognize, easy to reduce, and not very difficult to keep in place. We all know that in adults dislocations at the elbow get well readily after reduction, and without any stiffness. In children how different is the prospect! In them the elbow nearly always remains more or less restricted in its movements. The cause of this is not alone the persisting malposition of the fragments, although that accounts for much; it is to be explained in large part by the fact that in such injuries the periosteum is always much stripped up, which leads to extensive deposit of new bone. After a while, however, in these young subjects, the bone, although much altered in form at first, becomes remodeled, and, in the course of a few years, almost perfect restoration of movement may be expected. Not infrequently, however, the growth of the bone is arrested to a certain extent, and, if the separation of the epiphysis has been only partial, it may chance that permanent and very peculiar alterations may result. It will often puzzle the best anatomist to give anything like a confident interpretation of the case; over and over again he has known most remarkable differences of opinion between those who were well entitled to give them, and more than once it has been his lot to save a child from an attempt at the forcible reduction of what was supposed to be an old dislocation, by persuading the surgeon that the case was really one of separation of the epiphysis.

In conclusion, he gives the following practical rules: Never forget the epiphyses—that they are the weakest part of the bone. Always suspect that the injury is complicated—in part a dislocation at the joint, and in part a displacement at the epiphyseal junction. Remember that simple and complete detachments of the lower epiphysis of the humerus are more common than simple dislocations of both bones backward. Never give a diagnosis, if the case is the least puzzling, without putting the child under ether and making a careful examination. Never be content unless you can easily put the limb up with the elbow well bent. Be very careful to give a guarded opinion to the parents, knowing that in nine out of ten simple dislocations there is damage either to the coronoid process or to the lower end of the humerus, and that some impediment to free motion is almost sure to result for a time.

THE PROFESSION IN GREAT BRITAIN.—According to an analysis of the new issue of the British "Medical Directory" given in the "Medical Times and Gazette," the whole number of practitioners is 26,038: 4,417 in London, 11,776 in the provincial list, 2,206 in Scotland, 2,430 in Ireland, 1,717 resident abroad, and 2,493 in the army, the navy, the Indian Medical Service, and the mercantile marine.

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884.

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE I.

Limitations of the Subject to Macroscopic Encephalic Morphology.—Methods of Regarding the Brain based upon its Condition in Embryos and in Amphibia.

MR. PRESIDENT, LADIES, AND GENTLEMEN: In fulfilling my acceptance of your invitation to deliver the lectures upon the Cartwright Foundation this year, I desire to express my wish that such testamentary provisions may be multiplied, my pleasure in addressing an Alumni Association which includes so many of my former pupils, and the sense of mingled eagerness and hesitation with which I speak upon the brain in a city which has a Neurological Society and is the meeting-place of the National Association.

The title, as announced, "Methods of Studying the Brain," is so brief and comprehensive as to be misleading. To avoid, therefore, all occasion for misconception or disappointment, and especially to forestall the criticism which might be brought justly against a proposition to describe fully in three lectures all methods of studying the brains of all vertebrates, I hasten to state that the facts and considerations to be laid before you are exclusively *morphological*; that comparative anatomy and general zoology and embryology have place only in so far as they elucidate human anatomy; and that histology, physiology, pathology, and psychology are omitted altogether.

These latter methods of regarding the brain, it is true, immediately subserve the ultimate purpose of the physician to recognize the nature and causes of encephalic disorder, to anticipate results, and to avert such as may be undesired; but surely it is equally true that microscopical, experimental, pathological, and psychological observations and discussions are more reliable and fruitful when based upon that living knowledge of the visible constitution of the organ concerned which is to be gained only through prolonged personal and familiar acquaintance.*

Leaving, then, to others the honor of discussing the more advanced and difficult topics named above, be mine the humbler task of attempting the exposition of some primary facts, methods, and ideas which may help to make wider, deeper, and more substantial the foundations of neurological science.

This limitation of the subject requires an extension of the title, which now may read as follows:

Outlines and Illustrations of some Methods of Regarding, Obtaining, Preserving, Examining, Figuring, and Describing the Brains of certain Amphibia and Mammalia, which have proved useful in the Anatomical Laboratory of Cornell University, which appear to be unfamiliar to many physicians, and which it is hoped may aid them in acquiring, retaining, and imparting clear, real, and accurate knowledge of the Normal, Macroscopic Structure of the Human Brain.

Mention is made of the successful employment of these methods in the Anatomical Laboratory of Cornell University for two reasons:

First, In acknowledgment of my obligations to my colleagues* and present and former students for suggestions and assistance, and to the President and Trustees of the University for the liberality which has enabled me to obtain the material, preserve the specimens, and perform the experiments through which the results to be described have been attained.

Second, If the fact that these methods have been tested for periods ranging from one to twelve years, in work and instruction in a laboratory where most of the students are preparing for a medical course, be taken as experimental evidence of their worth, then the time which otherwise I might feel called upon to spend in argument may be better employed in illustration.

The methods above indicated fall naturally into three categories, *mental*, *manual*, and *verbal*, involving, respectively, the Recognition of Ideas, the Performance of Manipulations, and the Employment of Terms. This evening I shall offer some general propositions and figures which, in a somewhat extended experience, I have found to facilitate the comprehension of the brain as a whole. On Monday I shall describe certain ways and means of normal encephalotomy. At the closing lecture, in illustration of the results of these methods, I shall ask your attention to features of the brain which are not infrequently overlooked or misunderstood; and finally submit to you some considera-

* Most of the figures are based upon photographs taken by my colleague, Professor S. H. Gage, whose original and ingenious method of using a camera capable of being brought into the vertical position enabled us to obtain pictures of delicate embryos and brains which could hardly have been taken in the ordinary way; some, indeed, were photographed in alcohol, and the *Necturus* shown in Fig. 10 was alive in the water. The drawings have been made by my colleague, Professor E. C. Cleaves, and by Mrs. Gage (whom, like her husband, I am proud to claim as a former student). Aside from their artistic merit, the extreme accuracy of the figures is largely due to the intelligent and painstaking care with which the specimens have been studied in connection with the photographs. To Professor Gage and to Mr. F. L. Kilborne (a former student and now Anatomical Preparator to the University) are also due my thanks for their cordial and skillful assistance, and especially for their aid, often at considerable personal inconvenience, in elaborating and applying the methods of injecting the encephalic vessels and cavities with alcohol. Finally, the plan of pasting the printed names, etc., upon drawings to be reproduced by any of the photo-engraving processes was first employed, so far as I know, in Professor Gage's paper (10).

* "Personal familiarity alone makes knowledge alive."—PHILIP GILBERT HAMERTON.

tions respecting the employment of certain terms of description and designation which are not in common use.*

Consider a human brain. Variouslv viewed, it consists of two, four, six, or more than one hundred parts visible to the unaided eye. A congeries of comparatively simple cells and fibers, yet in action how unlike ligament and connective tissue. Soft, yet molding the skull upon itself. Confined within the head, yet well-nigh omniscient and omnipotent throughout the body. At once the ruler and the servant of all other organs. A mass of matter, yet ministering directly to mind. Who can fitly describe it? Who can hope to comprehend it? No wonder that so few truly wise and candid men pretend to really understand the brain. No wonder that a most accomplished neurologist, at the threshold of a work which I hope may be soon completed, used the following words:

"The cerebro-spinal axis of the adult presents us with such a maze of ganglia, such complicated topographical relations, and such a bewildering labyrinth of unilateral and commissural associating strands, and of direct as well as decussated and interrupted projecting tracts, that not only the student of general medicine, but even many of those who devote their attention to neurology, abandon the task of obtaining more than a knowledge of the cerebral outline as hopeless."—SPITZKA, 6, 2†

Before suggesting the means by which the hopelessness of this task may be diminished, permit me to comment briefly upon some methods of regarding the brain which, so far as I can judge from standard text-books and other sources of information, are not altogether unknown at the average English and American medical college:

1. The brain is regarded as a fibro-cellular mass, penetrated here and there by inconsiderable cavities.

2. Now that these cavities are no longer supposed to be the "reservoirs of animal spirits," or the "receptacles of the excrements which are separated in the nourishment of the organ," all use and significance seems to be denied them.

3. Little attention is paid to the membranes which line these cavities and invest the entire organ.

4. For lack of a clear recognition of the nature of the cavities, there is commonly enumerated therewith a space between two apposed ectal surfaces, the so-called "fifth ventricle," which forms no part of the series, either actually or ideally.

5. On account of its slenderness in man and the higher mammals, one of the primary divisions of the cavity is described as a mere passage of communication, and a like rank is assigned to a division of which the cerebral hemispheres themselves are only diverticula.

6. The fascinations of microscopical technique, the exclusion of the brain from ordinary surgical interference, the difficulty of obtaining the organ in a condition suitable for

* That the use of these unfamiliar terms earlier in the course may cause the least possible embarrassment, the liberality of the lecture committee enables me to place in your hands a sheet on which are printed the technical terms employed in the lectures, together with their more common technical and English equivalents.

† The list of works and papers referred to in these lectures will be appended to the last. In most cases the titles may be found in the bibliographical portion of Wilder and Gage's "Anatomical Technology as applied to the Domestic Cat," pp. 538-553.

dissection, and, finally, the not unnatural tendency of writers and teachers to ignore the necessity for more information than they themselves possess, have led to an undue curtailment of the time given to the gross anatomy of the brain. Is it indeed beyond the range of possibility that a student should be permitted to imagine himself possessed of some knowledge of encephalic anatomy because he can discriminate between *corpus callosum* and *corpus striatum*, or between optic lobe and optic thalamus; or even when he can merely repeat a string of sonorous names, notwithstanding, like the "peripatetic professors of phrenology" mentioned by Ecker, he has "never seen a brain"—seen it, that is, in the sense of having personally and thoroughly dissected it in a fresh or well-preserved condition?

7. The more obvious features of the larger masses are described and figured in detail, while certain lesser points are inadequately discussed or ignored altogether.

8. The morphological significance of some of these slighter features is so little appreciated that the description of an orifice in the "*lamina cinerea*," or the representation of the "third ventricle" without a roof, excites no more surprise than would the enumeration of a larger or smaller number of foramina in the "anterior perforated space."

9. Usually the adult human brain is the first and only object of examination, and is taken as the standard of comparison; if animal brains are studied at all, they are often taken as they come, or as anatomical rarities, not selected in accordance with a principle which might indicate the probable degree of their usefulness.

10. The development of the brain is treated only as a division of embryology, and as such is apt to be overlooked until after the time when it might be most useful in aiding the comprehension of the organ.

11. Most anthropotomical accounts of the development of the brain are well-nigh unintelligible to any but the learned anatomist by reason of their brevity, the introduction of elaborate figures, the slight use of diagrams, the attempt to describe or represent at once all the kinds of changes which affect all parts of the organ, and, finally, by the employment of terms differing, in character or at least in form, from those which occur in the account of the adult brain.

12. A few parts have been named from real or fancied resemblances to other portions of the body or to various objects, but the organ as a whole has been treated as if beyond the pale of analogy and literally incomparable.

13. The visible parts, nearly two hundred in number, are mentioned in descriptive anatomy only in their topographical sequence, and the student is expected to master the details presented by the base of the organ, including the nerve-roots, or on a mesal hemisection, or on transections at various levels, with little or no intimation that the parts thus exposed together belong to quite different divisions.

14. The brain has been variously and incongruously subdivided into two, three, or more parts, with apparently no reference to any underlying plan of organization.

15. With some other complex organs, the effort has been made, more or less successfully, to reduce them to their *simplest terms*; to recognize in each a structural unit which is reproduced with variation throughout the whole. The

liver, for example, is a mass of essentially similar lobules, and the lungs consist of innumerable thin-walled sacs, each surrounded by a capillary network.

16. As to the brain, histologically it is said to consist of cells and fibers, and physiologically of ganglia and nerves, or centers and conductors, or "stations" and "projection systems," but the conception of a *macroscopic encephalic unit* seems not to have been commonly entertained. Moreover, although a segmental constitution of the brain has been more or less distinctly outlined in special papers and in the embryological portions of anatomical compendiums, the encephalic masses have been discussed to the nearly complete exclusion of the cavities.

17. The chief obstacle to the early and clear recognition of the simple character of the encephalic unit has been the enormous development of the *cerebral hemispheres* in man and the higher mammals, and the relative insignificance of the mesal part by which they are connected. Hence has arisen the idea of *encephalic duplicity*—an idea which is supported by the pairs of lateral masses called *thalami*, by the pairs of lateral eminences called *lobi optici*, and especially by the peculiar physiological relations of the two halves of the entire brain with the right and left sides of the body. Thus has it come about, paradoxical as it sounds, that the hindrance to the progress of the philosophical anatomy of the brain has been occasioned mainly by the peculiarities of the very region through which alone philosophy has arisen.

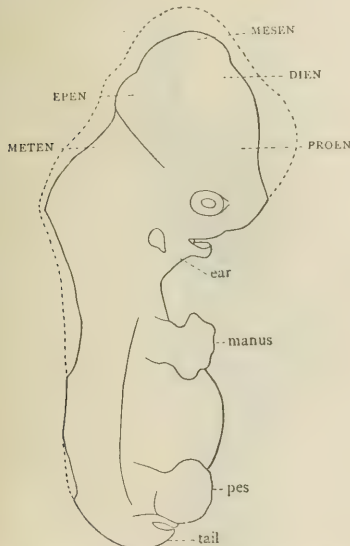


FIG. 1.—RIGHT PROFILE OF A HUMAN EMBRYO (accession No. 274) $\times 6$. Drawn by Professor Cleaves. The dotted line indicates, very nearly, the outline before the dissection by which were exposed the *coelia* and most of the *Canalis centralis*. For a short distance just caudal of the meten, however, the dotted line should coincide with the general outline, as shown in Fig. 2.

The methods of regarding the brain which have been employed in research and instruction in the anatomical laboratory and lecture-room of Cornell University during the last seven years have been evolved from the study of

the organ chiefly as it exists in Embryos, in the frog and *Necturus*, and in the domestic cat.

Whether the naturally deplored difficulty of procuring fresh, adult, human brains has, in our case, proved to be a not altogether unmixed evil, it is not perhaps worth while to inquire. It is certain, however, that the comparative inaccessibility, until recently, of special neurological literature, has had the undesirable effect of deferring my acquaintance with the anticipation of some of these methods by other workers in the same field. On the present occasion it would be impossible to specify in detail the obligations under which otherwise I might have been to Balfour, Hadlich, Mihalkovics, Spitzka, von Baer, Wernicke, and others, but it seems proper to state that, for the views to be submitted in the present lecture, I have to acknowledge indebtedness to only two sources: The description and diagrams of the typical brain in Huxley's "Anatomy of Vertebrated Animals," and the tabular arrangement of the encephalic names in the eighth edition of "Quain's Anatomy."

As examples of the material on which the methods to be outlined are based, I submit specimens, photographs,

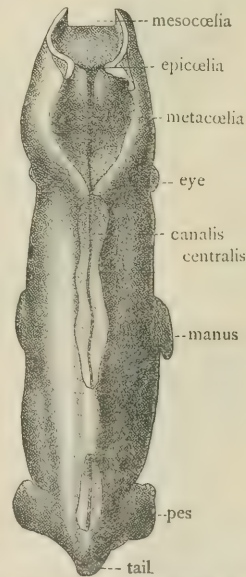


FIG. 2.—DORSAL ASPECT OF THE HUMAN EMBRYO SHOWN IN FIG. 1; $\times 6$. Drawn by Professor Cleaves. The *coelia* have been exposed, together with the *Canalis centralis*, except at two points. At most parts no attempt has been made to distinguish between the thin body wall and the encephalic parietes.

and drawings of the brains of a human embryo eighteen millimetres long,* and of an adult *Necturus*, frog,† and cat.

* The embryo has a distinct tail. Its limbs are flipper-like, the indications of digital differentiation being more distinct on the manus than on the pes. The outline of the heart is dimly seen. All the parts of the face are recognizable, but the eyeballs are uncovered and the ears and nostrils are pits. The head is enormous, constituting about half of the whole.

† The figure of the frog's will be given farther on.

The following points are illustrated thereby:

1. The persistence of the Canalis centralis of the myelon

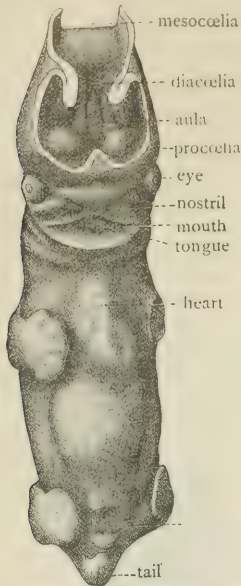


FIG. 3.—VENTRAL ASPECT OF THE HUMAN EMBRYO SHOWN IN FIG. 1 AND FIG. 2; × 6. Drawn by Professor Cleaves. The proœcia, the diacœlia, and part of the mesocœlia are seen. Except at the meson and on the sides, where the hemispheres join the diacœlian walls, no attempt has been made to distinguish the body wall from the proper cœlian parietes.

(which remains open in the adult cat and most other mammals, but is usually obliterated in the human adult), even into the caudal termination.

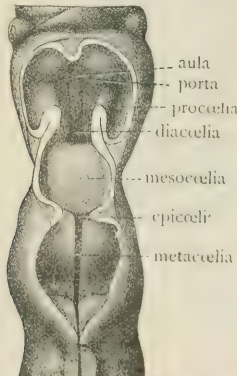


FIG. 4.—THE ENTIRE SERIES OF CœLIA OF THE HUMAN EMBRYO SHOWN IN FIG. 1, FIG. 2, AND FIG. 3; × 6. Drawn by Professor Cleaves. The cœlia, which, on account of the cranial flexure, really appear on the ventral aspect of the embryo are supposed to be brought into the same plane with the dorsal series, so as to be comparable with those of *Necturus*.

2. The continuation of the Canalis centralis into the head as a series of mesal cavities (cœlia, or "ventricles"), more or less distinctly defined.

3. The corresponding segmentation of the walls of these cavities.

4. The thinness of the parietes, and the corresponding extent of the cavities in the embryo and *Necturus*.

5. The slenderness of the intermediate cavity (mesocœlia) in the cat, its simplicity in the embryo and *Necturus*, and its subdivision in the frog into one mesal and two lateral cavities.

6. The lateral extension of the most cephalic division (proœcia), slight in the embryo, greater in *Necturus*, and very extensive and irregular in the cat.

7. The corresponding, relative insignificance of the mesal portion (aula) of this cavity in the cat, and its greater size in the others.

8. The great extent of the most caudal cavity (metacœlia) in the embryo and *Necturus*, and the narrowness of the band representing the cerebellum.

9. The continuity of the parietes in the embryo and *Necturus*.

10. The apparent interruption of the proœcian walls in the cat for the admission of a plexus, but their real continuity by reason of the reflection of the endyma thereon.

11. The extension of the entire brain upon the same plane with *Necturus*, and the marked flexure in the embryo, by which the mesocœlia becomes cephalic in position, the proœcia and diacœlia ventral, while the metacœlia and epicœlia remain dorsal.

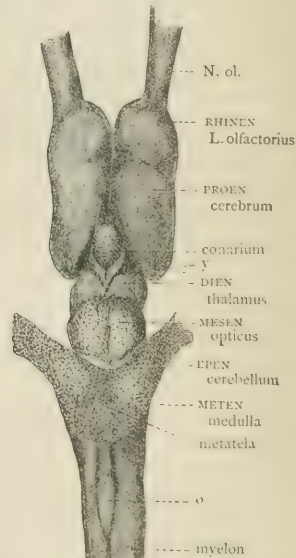


FIG. 5.—DORSAL ASPECT OF THE BRAIN OF *NECTURUS*; × 3. Drawn by Mrs. Gage. All the segments are visible, but the narrow cerebellum is mostly hidden by the extensive metaplexus. There is no evidence of a "foramen of Magendie," either in the appearances presented, or upon inflation, or injection of the cœlia with alcohol.

12. It should be stated that the non-appearance of the Lobi olfactorii in the cat is due to their removal with the other parts at the base of the brain; in the embryo they

may not have been formed. Apparently there are no plexuses in the embryo at this stage; in *Necturus* they are very

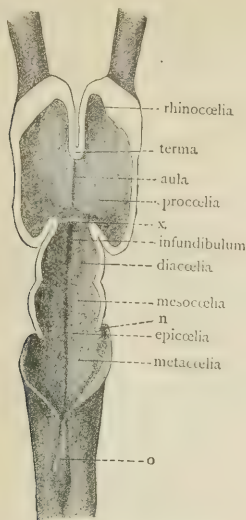


FIG. 6.—DORSAL EXPOSURE OF THE CELLS OF *NECTURUS*; $\times 3$. Drawn by Mrs. Gage. The aula and porta are very extensive, and the lateral portions of the procoelia relatively small.

extensive, but were removed for the sake of exposing the outlines more distinctly.

The most general statement of the methods recommended may be made in the form of six propositions:

A. The comprehension of the macroscopic morphology of the brain involves the removal of difficulties varying in kind and degree. These several categories of difficulties should be attacked separately, and in the order of (1) their fundamental importance and (2) their simplicity.

B. The arrangements of the solid parts of the brain are more readily perceived and more easily remembered after the relations of the cavities are fully understood.

C. An adequate idea of the circumscription of the cavities involves a distinct recognition of their lining and of the investment of the whole brain.

D. Even when the adult human brain is the ultimate object of inquiry, its detailed study should be preceded, rather than followed, by the examination of embryonic and certain animal brains.

E. The arrangements of the encephalic parietes are more readily appreciated if we disregard altogether their organic composition and their direct subservience to mental operations, and view the brain primarily as we might any artificial structure, like a house or a piece of furniture of homogeneous material.

F. In the attempt to comprehend or explain the various complications of encephalic architecture, by the comparison of the brains of different animals, or at various stages of individual development (ontogenesis), or as hypothetically evolved, in geological time (phylogenesis), diagrams should largely take the place of descriptions, even although we

may be compelled, provisionally, to assume a knowledge of intermediate steps which may not have been actually observed.

In the following amplification of these general propositions there are, I think, some statements and suggestions which have not as yet become part of the common stock of medical knowledge, and may therefore be appropriately discussed in a course like this. But the exigencies of logical and connected sequence may cause the introduction of some matters which, perhaps, appertain more strictly to elementary instruction. In a great medical center like this, however, a very large number of physicians are, or probably will be, the preceptors of one or more students. As such, even if the suggestion of a personal receptivity of additional information respecting the brain may be altogether out of place, some of them may gather hints which will enable them to co-operate more efficiently with the instruction of the schools.

A primary wish of the intelligent student of a complex structure is for a definition which is at once correct, clear, and comprehensive—the concise expression of the most general conception of its constant and essential characters.

Excluding the lowest three genera—*Branchiostoma* or amphioxus, *Myxine*, and *Bdellostoma*—the most general macroscopic morphological features of the vertebrate brain are as follows:

1. It is *elongated*. 2. It is *hollow*. 3. It is *constricted* at several points. 4. It is the cephalic continuation of the myelon.

Combining these, we have the following macro-morphological definition of the brain: A Segmented Entocranial Tube.

The recognition of the segmental constitution of the brain does not involve either of the following matters: (A) The precise number of segments; (B) The identity of their development; (C) The physiological identity of an entire segment; (D) The absolute physiological distinction between two segments.

The cavity of each segment is primarily and essentially a short, subspherical cylinder, open at either end, excepting the cephalic end of the last.

The primary segmental cavities constitute a *single mesal series*, but from several of them are produced *lateral diverticula*.*

These diverticula may be formed, by budding, at a very early period, as, e.g., the *optic vesicles*; or later, as is probably the case with the so-called *optic ventricles* of frogs and birds. The lumina may persist through life, as in the latter instance; or be obliterated, as in the former, where they form the *optic tracts*. In both cases they are comparatively simple in form, and in some animals (*Necturus*, *Petromyzon*, etc.) this is true also with the most cephalic diverticula, which become the cerebral hemispheres and *Lobi olfactorii*. In man, however, and the mammals generally, the cerebral diverticula become disproportionately large; their cavities, the so-called "lateral ventricles," are very irregular in form, and

* In this, and in a few other points, there will be found indications of a change in my views since the preparation of the chapter on the brain in Wilder and Gage's "Anatomical Technology."

so much more extensive than the primitive mesal cavity from which they sprung, that the latter is sometimes overlooked altogether.

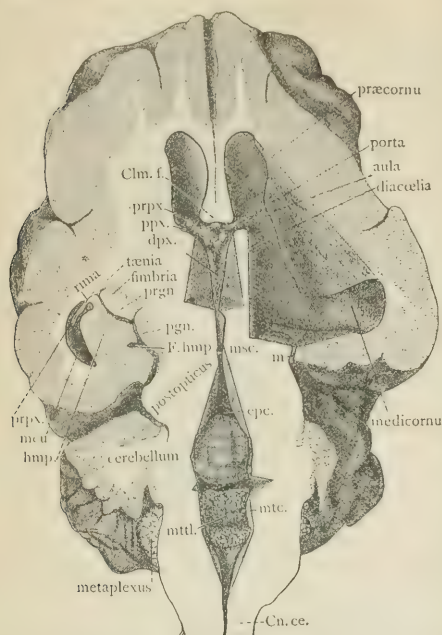


FIG. 7.—VENTRAL EXPOSURE OF THE CELLS OF THE CAT: $\times 2$. Drawn by Mrs. Gage. The cells were injected with alcohol to, and perhaps slightly beyond, their natural size. The ventral portion of the brain was removed at the level of the porta ("foramen Monroi") and mesocle (aqueo-lacune Sylvii). The sides of the cells are also removed to a certain extent, so as to show their continuity and the various nature of the roof. On the left side the præcornu and medicornu are shown to be connected by the removal of the intervening portion of the hemisphere. On the right side is shown the entrance of the plexus (prpx.) into the medicornu through the rima, but it is covered by the reflected endyma. The mediodiverticulum was removed altogether. The crista is shown as a mesal elevation at the cephalic side of the aula.

But it must be borne in mind that in frogs and birds the lateral masses and cavities constituting the optic lobes are also both large and complicated. Indeed, prejudice aside, they might well be designated as "hemispheres" and "cornua." Whatever may be the actual directions of these diverticula, all should be reduced to one normal position, extending laterad at right angles with the mesal line representing the primary cœlian series.

If these considerations are sound, it is obviously unnatural to define the brain as a bifurcated or Y-shaped or T-shaped tube. Or, if the lateral prolongations at the cephalic end of the organ are indicated, then the equally real and sometimes even more extensive prolongations at other points must also be represented by lines crossing the main cœlian axis.

The case is strictly analogous to that of the limbs. Whatever be the *natural attitude* of the arms and legs in different animals, it is now almost universally conceded that their *normal position* is at right angles with the body axis.

Practically, the cerebral hemispheres, like the legs of a man, constitute a part of the *length* of the brain; morphologically, however, they are elements of its transverse dimension—the *width*—and are to be paralleled with the lateral diverticula of the optic lobes, just as the legs are to be brought into line with the outstretched arms.

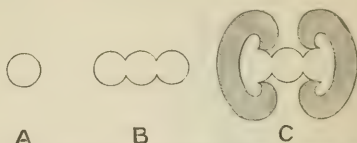


FIG. 8.—SCHEMATIC TRANSECTIONS OF THREE GENERAL CONDITIONS OF THE ENCEPHALIC UNIT. A, the primary, simple, thin-walled cavity. B, the secondary stage, in which the walls are thicker, and there are three connected cavities—one mesal and two lateral. C, the permanent condition in the mammals, the cavities, especially the mesal, dwarfed by the development of the walls of the lateral ones.

The simplest representation of the encephalic unit is as a *single* thin-walled cavity, as it is in the early embryonic stages. Secondly, and in accordance with some facts

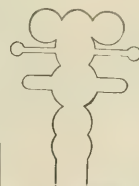


FIG. 9.—SCHEMATIC DIAGRAM OF THE DORSUM OF A BRAIN in which two segments are simple, while each of the others presents lateral diverticula, representing, respectively, the cerebral hemispheres, the optic vesicles, and the lateral "optic ventricles."

of comparative anatomy, but still from the purely macro-morphological standpoint, there are *three* communicating cavities—one mesal and two lateral. Finally, the cavities are practically obliterated, and, from the histologico-physiological standpoint, we have *two* lateral masses conjoined by transverse commissures. In more concise verbal form, the embryological idea of the brain is *unity*; the morphological idea is *triplicity*, while the physiological idea is *duplicity*.

The cavities of normal, adult mammalian brains are comparatively atelic, and hardly more than traces of what existed in their own early stages and presumably in the remote ancestors of mammals, as in the Amphibia of the present day. *Hydrocephalus* is a retention or exaggeration of this normal embryonic condition, and brains thus affected, if properly preserved and examined, may very clearly illustrate the manner of circumscription of the cavities.

In the brain, as in other regions of the body, the teleological importance of a part may be no index of its morphological significance, and may even be inversely thereto.

In addition to the usefulness of a knowledge of the relations of the cavities in facilitating a comprehension of the plan of the brain, their location is very nearly a guide to the distribution of the ganglionic centers and the course of the fibrous conductors and channels of blood-supply. Intrusions of vascular plexuses occur at various points, but the larger vessels rarely invade the cavities. Only in the mammals, and perhaps not in all of them, is the cœlian privacy disturbed by that most unsubstantial union of the two thalami known as the "soft commissure." Moreover, excepting the commissure just named, and the *callosum* and the filmy mesal line of the *fornix*, there are few if any "short

cuts" in the brain. Contiguity is thus no evidence of continuity; the human *pons* and the *chiasma* are almost in contact, but their fibers ascend in distinct segments. The occipital lobes of the cerebrum overlap the cerebellum, yet are but remotely connected therewith. The end of the fimbria passes within three centimetres of the corresponding *albicans*, but the shortest route between them follows the circuitous spiral of the cornu through a distance five times as great. In other words, the encephalic railroads and telegraphs skirt the comparatively insignificant remnants of the once extensive spaces about which they were first established, as if Kansas City and Chicago could communicate only by heading the sources of the Mississippi in respectful commemoration of the vast gulf of which even the "Father of Waters" is only a trace.

After the complete closure of the encephalic region of the embryonic neural canal, the presumption is that the cavity so formed is *completely surrounded*, and that the parietes are continuous. The burden of proof should therefore rest with those who affirm the existence of orifices or other interruptions of this continuity. The alleged "foramina of Magendie" will be referred to later; elsewhere than in the roof of the so-called "fourth ventricle" there is no sufficient evidence of any solution of parietal continuity, and the plexuses which apparently enter the cavities may be shown, readily and without the aid of the microscope, to be related thereto only as the abdominal viscera are related to the cavity of the peritonæum.

Eventually, the study of the cranial nerves may aid in the determination of the number of encephalic segments, but for the present the nerve-roots should be omitted from the primary study of the organ, excepting the olfactory nerves, which are practically lobes, and the optic, the *chiasma* of which forms a prominent topographical landmark.

To become an accomplished embryologist or comparative anatomist demands an amount of time and mental expenditure which rarely can be spared from the sacred duties of medical practice or preparation; perhaps, indeed, will never be so taken by the sincere practitioner even when his patients are only the helpless soldiers or sailors of the United States. But, unless he is so fortunate as to have had a thorough preliminary training in general biology, he should—provided he desires to think and understand as well as to see and know—take early and frequent opportunities of examining the simple brains of Amphibia and lower mammals, and of mammalian embryos.

The animal brains examined by the medical anatomist as an aid to the comprehension of the general arrangement of the organ should be chosen because either (A) they are simpler than the human brain and readily comparable therewith; or (B) they are obtainable promptly and in sufficient numbers; or (C) the animals lie in or near the presumed line of human ancestry.

The resemblance between the brains of early human and shark embryos is really startling, and a fuller knowledge of the brains of *Petromyzon*, *Ceratodus*, *Protopterus*, and *Lepidosiren* will certainly aid in clearing up the relations of the mesal and lateral divisions of the most cephalic segment; but there are obvious practical obstacles to the

general employment of these forms. On the other hand, medical neurologists are sometimes led into an examination of the brains of the Teleostei, partly because they may be had at any time, and partly in accordance with the popular belief that all the organs of all other vertebrates are, of necessity, simpler than those of man. The general question here indicated is too broad for discussion on the present occasion, and I therefore content myself with expressing the doubt which, in common with others, I have been forced to entertain as to whether (A) man is the highest mammal, and (B) the human body is now as perfect, anatomically and physiologically, as it may reasonably be expected to become if the natural laws of the past are to operate likewise in the future.* With regard, however, to the special instance of the teleostean brain, there need be no hesitation in declaring that the commercially "common fish" is so highly specialized as to be zoologically almost a phenomenon. In one single respect may the teleostean brain prove useful to the medical neurologist—namely, in the non-fusion of the optic nerves with each other and with the floor of the so-called "third ventricle," which is thus seen to exist independently of the *chiasma* formed in most other vertebrates; but in all other respects let us be warned by the recollection of the degree in which the progress of human and comparative anatomy was retarded by the powerful and well-meant, though misguided, efforts to base a science of osteology upon that morphological monstrosity, the skull of the cod.

The reptiles are probably, and the birds most certainly, out of the direct line of human descent, and their brains are thus of use only to the advanced neurologist in throwing certain side-lights; for example, in birds the mesocele presents the triple constitution which I hold to be the complete expression of the encephalic unit, and in certain lizards Spitzka has observed the third and intermediate pair of optic lobes which he calls *interoptici*.

As to the mammals, the brains of the lower and smaller forms—opossum, rabbit, etc., with their less developed cerebrum and cerebellum, fornix and callosum—present obvious advantages in the way of simplicity; those of the higher and larger forms—cats, dogs, sheep, monkeys, etc.—are more useful as supplying the material for dissection when human brains can not be had, while those of the pig can be obtained in all stages of development, as has been so well illustrated in the work upon Human Physiology by the distinguished professor from whom many of my hearers have gained their knowledge of that science.

The remaining vertebrate class, the Amphibia, including the frogs, toads, and salamanders, fulfills, as a whole, all four of the conditions named above. The advantages presented by the frog's brain have been admirably described by Wyman,† and may be more categorically stated as follows:

* The physician who has lost a patient in consequence of the lodgment of a grape-seed, or other natural constituent of wholesome food, in the *appendix vermiformis*, may endeavor to reconcile the calamity with popular belief, but will more properly look forward to the period when this worse than "worthless primeval heirloom" will have ceased to be an element of human structure.

1. The various parts, while far from equal in size, differ much less than in the higher Vertebrates.
2. No part is completely hidden by another.
3. All lie in the same plane.
4. The cavities are relatively large.
5. The parietes vary little in thickness.



FIG. 10.—DORSAL ASPECT OF A PARTLY BROWN *NECTURUS LATERALIS*. This salamander, sometimes called *Menoponchilus*, is one of the perennibranchiate urodelaous Amphibia. Having both pairs of limbs, as well as a tail, and ootobranchiae ("external gills"), as well as simple lungs, it is a very comprehensive vertebrate; and, as urged by the writer at the meeting of the Society of Naturalists of the Eastern United States, December 28, 1883, much better adapted than the frog for elementary zoological and morphological study. The extreme coarseness of most of its tissues fits it likewise for histological purposes.

The figure (drawn by Mrs. Gage) is taken, by permission, from Professor S. H. Gage's paper, "Observations on the Fat Cells and Connective-tissue Corpuscles of *Necturus*," Proceedings of the Am. Soc. of Microscopists, iv, 1883.

6. While all the primary components of the brain are present, there are but few special additions or modifications to distract attention from the general plan.

7. There are three "optic ventricles" or divisions of the mesocele—one mesal and two lateral, as in birds.

In view of all these excellences and the very obvious advantages for general dissection afforded by a creature which is readily obtainable and wholly inoffensive, whose tissues are coarse, and whose organs are readily separable, the very skin being, as it were, only "basted on," to criticise the frog as a subject of elementary anatomical study is to deride a laboratory fetic. Nevertheless, for beginners, the frog's brain is objectionable, because (A) the plexuses are almost wholly wanting; (B) in common with the other Anura, there is, in the adult, a close conjunction of the *Lobi olfactorii* which is anomalous and misleading. I say misleading, because it not only puzzles the beginner, but also, inasmuch as the hemispheres remain separate, there is formed a sort of nervous ring; and even the late Jeffries Wyman, who made so few mistakes in observation and interpretation as to merit the title of the anatomical George Washington, compared it with the œsophageal ring of some invertebrates. In view of these considerations, would it not be well to disconnect the olfactory lobes when a frog's brain is first examined, and should not more frequent and systematic use be made of the large salamander *Necturus* (Fig. 10) already mentioned?*

But even the *Necturus* brain has its drawbacks, and it must be admitted that a great desideratum of the teacher and student of encephalic morphology is a brain constructed on the general pattern of that of *Necturus*, but with the firm texture and more distinct cerebellum of the frog, and at least as large as the brain of the giant *Megalobatrachus* of Japan.

(To be concluded.)

THE RECIPROCAL ATTITUDE OF THE MEDICAL PROFESSION AND THE COMMUNITY.

THE ANNIVERSARY ADDRESS BEFORE THE MEDICAL SOCIETY
OF THE STATE OF NEW YORK, AT THE SEVENTY-
EIGHTH ANNUAL MEETING.

Delivered at Albany, February 6, 1884.

By ALEXANDER HUTCHINS, A. M., M. D.,
OF BROOKLYN, N. Y.,
PRESIDENT OF THE SOCIETY.

THERE is a medical science, but if medicine were a science only, there would be fewer medical schools than now exist.

The former part of this proposition has been flatly denied. The impression is prevalent, and the expression of opinion frequent, that while much learning has been amassed in medical research, the results thereof are so unrelated, and the conclusions so untrustworthy as a basis for future observers, that, even conceding that some of its methods are

* When the fishermen find that a "mad-puppy" has a pecuniary value, they soon overcome the superstition that it is venomous. At most seasons of the year *Necturi* may be obtained from Mr. Russell Dee, Harnar, Ohio.

scientific, in the catalogue of the sciences it is to be classed among the empirical, and not in the exact.

The scope of intellectual activity has varied with many epochs and many climes, and the verbal definitions that have marked the limits of one epoch are not applicable to the ranges that have been traversed by thinkers and investigators of later periods. Aristotle, as a naturalist, holds a fixed relation to zoological science; so likewise does Cuvier; but the types of Darwin have disentangled and wrought into new shapes the words that defined the science of the Frenchman and the Greek. The schoolmen of the middle ages found the beginning of things far posterior to the times into which the Egyptologists of to-day have groped, and the forms of speech that outline ethnology in this year of grace would have been cabalistic and meaningless to the thoughtful brows in whose presence men paid homage in the days of Charlemagne. The marble busts in our own Pantheon cause in us obeisance to the venerable and honored men who wrought and healed to the world's great good; but the man of Cos, who framed the oath to which we have all subscribed, would need to learn his alphabet anew were he to attempt the terms that limit the medical science of this later century.

Scholars there have been in all ages, and through each era in the growth of knowledge, as leisure or inclination prompted, the lines have been sharply drawn between those who have wrought into new forms truth that has been revealed and those who have labored in the discovery of truth to which the world had hitherto been a stranger. No comparison can be instituted between Bancroft and Agassiz.

The scope of the sciences has been so enlarged as to affect many and diverse directions of investigation, where the investigation has developed an orderly arrangement of facts and principles; and classified knowledge, in any special line, elevates that knowledge into the rank of the sciences. Still, words have a recognized application, and, although there is a legal science, the Supreme Court is not a scientific body.

Knowledge is so interwoven, one branch with another, that a rich culture in one line of research implies and necessitates extensive knowledge of related studies; and this advance of general knowledge is the result of advance of special inquiry, and stimulates to the greater subdivision of special study. The number of the sciences increases with each intellectual epoch, and the sciences themselves become the subject of grouping. Human anatomy is a science, and, in its orderly classification of structure and relation, was a science long before the dependent science of histology unraveled the closely woven web that held so many mysteries in its fast embrace; before physiological science lifted the veil and disclosed the inevitable necessities of related structure; before chemical science touched with her magic wand the sealed volume where lay inscribed the hidden processes of waste and repair; before pathological science began her study of the myriad variations from the ideal type of structure, and of the utmost bounds where the interrupted harmony of process becomes discord, beyond which is dissolution; before the science of embryology all but touched the

confines where the creative force starts the complex human mechanism in its infinite reproduction; before comparative science demonstrated the unity of animal organism; before biological science grouped all living organization, to make clear the intimate similarity that exists in all structures informed by the element called life.

The results of the world's labor, which have become the foundation of medical learning, are on open pages which all may read. Not with gigantic strides have the distances been traversed, not by herculean labors have the stones been placed, but slowly, patiently, insensibly, have the toiling students of living things observed, recorded, and grouped, one generation after another, names multitudinous and lost to history, till the student, who starts afresh to-day, stands debtor to a scholarly ancestry, as remote as the world's past, connected with a succession of humble ministers on Nature, as remote as the world's end, whose absorbing inspiration is the genius of true scholarship the wide world over—the search for truth and its free gift to mankind.

Though biological research is a new phrase in science, its multimorph processes and the character of its results have been identical, all along the history of the investigation of life, before they were compacted into the more modern classification. Medical science assumed her unique place among the sciences when the facts and phenomena evoked by biological research were made the basis of investigation, whose purpose is to prolong the vital process and arrest the untoward influences that perpetually threaten its extinction. This is her distinctive mission. The facts are not wanting to support the belief that, through the varying civilizations, the protection of communities has been the object of her forethought, and hygienic measures have shaped themselves into laws; yet it has been reserved to the present century to enunciate the problem of how communities are to be protected, and to formulate laws in accord with strictly scientific methods, looking to the prevention of disorder and the prolongation of human life; yet the individual has always been the object of her solicitude, and the record shows how persistently, according to the lights of each era, the precepts of personal hygiene have been inculcated, and how, with each marked acquisition in scientific knowledge, scientific methods have been applied to the preservation of the individual. There is a luminous record of proof to show that the brilliant achievements in principles and detail that have been applied to the recovery from disordered process, have been the rational outcome from an antecedent advance in scientific inquiry, could not have been possible without that knowledge, and have not been merely haphazard and accidental. It is clear, also, that the tremendous strides in scientific knowledge the present century has witnessed, springing from the increased facilities for the diffusion of knowledge and the rapid interchange of thought, have been the impulse to the intelligent and far-reaching and exact methods that have prolonged life and increased the sum of human happiness among the civilized races. The instruments of precision that have contributed so much to exact knowledge of normal structure and activity have been supplemented by instruments of precision that settle the terms of definite prognosis. The appliances for

distortion, the agents that avert the shock of operation, the simplification of treatment through the known sequence of morbid phenomena, the separation of the active principles of remedies, the differentiating selection of therapeutic measures, the discriminating nomenclature, the humane treatment of the insane, and the skilled knowledge that has made possible the bold measures of surgical interference, are results based on scientific research, and but for that would not have been possible as instances of methodical procedure.

Though some names are inseparably connected with the beginning of certain movements that have become classic—as Simpson with chloroform, McDowell with ovariectomy, von Graefe with glaucoma—yet the rule is so invariable that the principles and details which give accuracy to the rectification of morbid process have had for an antecedent precise information of normal activity, derived from so many sources, that priority of claim can rarely be made good. The body of medical science is the slow accretion of the centuries, and the contributions to its learning are too numerous for the historic pen. The results of yesterday are the alphabet of to-day. Dogma is flashing but evanescent. The multitude of observers and the host of journals which give rapid interchange of thought betoken the industry which gives it distinguished place in the procession of research. The unproved is rapidly discarded, the good is improved upon and becomes common property. But seventy-five years have gone since the ovarian cyst was excised by the grave Kentuckian whose honored memory his grateful brethren have perpetuated by the granite obelisk* in the Danville churchyard, and, by a skillful use of exceptional opportunity, the Scottish chieftain is justly credited with having added hundreds of years to woman's life; and not only that, but, wherever this literature has reached, men, whose names can never become historic, are performing this merciful task with assurance and success. But fourteen years have gone by since the turf hid the gifted German† who revolutionized the operation for cataract, but even now the great centers show a phalanx of men whose skill is greater as their experience has increased. By the very genius of the science this history of progress and change must always be repeating. The days rapidly hasten on when the names of McDowell and von Graefe, of Keith and Sims, will be prominent only as land-marks. The apotheosis of the laureate rings aloud of this company as of none other:

"Men, my brothers, men the workers, ever reaping something new,

That which they have done but earnest of the things that they shall do."

Within the past year‡ the father of English Vital Statistics, Dr. William Farr, died at the ripe age of 75 years. In 1837, at the age of 29 years, he published the first English registration report of vital statistics. By a singular coincidence the same month in which his death occurred Mr. N. A. Humphreys read a paper before the Statistical

Society on "The Recent Decline in the English Death-Rate and its effect upon the Duration of Life," wherein he analyzes the Registrar-General's mortality statistics covering 45 years (1838 to 1882). The comparison of Dr. Farr's and Mr. Humphrey's new life tables shows that the mean duration of the life of males has increased from 39.91 years to 41.92; of females from 41.85 years to 45.25 years, or of a generation from 40.86 years to 43.56, showing an increase of 2.70 years, equal to nearly seven per cent. Of course, the importance of this showing is due to the fact that these results are traceable to the enforcement of State medicine and hygiene during this same period.

"Although a large proportion of young people cease to be dependent before twenty, and a large proportion of elderly persons do not become dependent at sixty, we shall not be far wrong in classing the forty years from twenty to sixty as the useful period of man's life. Table IX shows us that of the 2,009 years added to the lives of 1,000 males by the reduction of the death-rate in 1876-1880, no less than 1,407, or seventy per cent., are lived at the useful ages between twenty and sixty. Of the remainder of the increase, 445, or twenty-two per cent., are lived under twenty years, and 157, or one eighth per cent., above sixty years. Thus, of the total increase seventy per cent. is added to the useful, and thirty per cent. to what may be called the dependent-age periods. The increased number of years lived by 1,000 females, according to the rates of mortality that prevailed in 1876-1880, is 3,405. Of these (see Table X), 2,196, or sixty-five per cent., are lived at the useful ages between twenty and sixty; 517, or fifteen per cent., under twenty years of age; and 692, or twenty per cent., over sixty years."

"Looked at from another point of view, there has been an addition of three minutes for men and five minutes for women in England to every hour of their existence, and under her present conditions a country with a population of thirty millions would, at the end of a generation, have two millions more inhabitants than under England's previous conditions.

"Life is not only longer, but active life is begun later, and old age is more robust. We think Mr. Humphrey's analysis of the registration reports will be acknowledged to amply justify sanitary legislation and expenditure."*

The one hundred years have just passed since Jenner's observations and experiments in Gloucestershire† associated his name inseparably with the amelioration of small-pox. Fifty years later Ehrenberg and Dujardin studied and described the various forms of monas, vibrio, spirillum, and bacterium, and the century hardly rounded before Schwann had shown that these bacteria are the cause of the putrefaction of organic substances, and Pasteur had extended this discovery so as to create the belief that all putrefactive changes are due to such minute organisms, when Lister had developed his antiseptic method based on these discoveries; when Koch propounded his theory that tubercular consumption was due to the bacillus; when erysipelas and glanders and splenic fever and malignant charbon were shown to be

* Erected 1879.

† Albrecht von Graefe, died 1870.

‡ April 14, 1883.

* "Boston Med. and Surg. Jour.," June 7, 1883.

+ 1775.

due to special types of bacteria,* and Pasteur had inoculated the attenuated virus of malignant charbon as a protection to cattle and sheep from attacks of the severe forms of the disease, the immense importance of which discovery has been confirmed, this present year, by a report presented to the Veterinary Society of the Department of Eure-et-Loire, showing that these vaccinations, practiced on a large scale, had reduced the annual loss on these flocks from nine per cent. to $\frac{55}{100}$ of one per cent.† The ink is hardly dry from the presses that announce that Lacerda has discovered the yellow-fever microbe, Ziehl the micrococcus of pneumonia, Koch the special bacterium of cholera, Eschbaum the micrococcus of gonorrhœa, Klein of diphtheria, Pohn-Pincus of scarlet fever, Leyden of cerebro-spinal meningitis, Fehleisen of erysipelas, and Linard the bacillus of malarial fever, the intermittent activity of this latest "find" receiving a prompt quietus when immersed in a two-per-cent. solution of quinine—a baptism that would not involve regeneration to much more highly organized creatures. Whether all these and their similars are to stand the test of propagation by "pure culture," and wheel into the prophylactic column, who can say? But it would be a risk to cast their horoscope. Whether the time is ripe to hang a man on microscopic evidence, or whether the time will ever come when the special vibrio of the assassin shall be diagnosed from the spore of the burglar and the zoön of the concupiscent, are not questions angrily struggling for a reply. Humiliating as it has been to know, during the centuries, that "all flesh is grass," the sentimentality of human affection is entirely upset as the apparent universal distribution of these swarming micro-organisms support the scientific accuracy of Festus when he informed his Helen that

"The worm shall trail across thy unsunned sweets,
And fatten him on what men pine to death for;
Yea, have a further knowledge of thy beauties
Than ever did thy best-loved lover dream of."

(Continued on page 168.)

Original Communications.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.‡

By FORDYCE BARKER, M. D., LL. D.

DURING the five years which I have had the honor to occupy this chair I have never before seen a meeting of this Academy so enthralled by the charm of elocution, the fascination of rhetoric, the glow of conviction, and the air of one who speaks by authority—an air which can never

carry weight unless it has been before fairly and justly earned by good work—as on the evening of December 6th, when the paper was read on "The Prevention and Treatment of Puerperal Fever."

Its authoritative tone, its earnestness and sincerity, its coloring of being based on experience and observation, instead of being unconsciously deduced from preconceived theory, give the paper such a plausible air of scientific truth as must secure its acceptance without question by many minds whose belief rests on authority, without examination of the data or analysis of argument. The more eminent the author of errors which may dangerously influence medical practice in matters of such vital importance as the saving of life of those who have just become mothers, the more striking the literary excellence and the more admirable the artistic merits of a paper promulgating such errors, the more necessary it is that such errors should be boldly met and promptly refuted. Any paper read before this Academy, by one to whom all concede a place among the most eminent in the department of the profession to which his life has been devoted, if allowed to pass without examination and discussion, will be accepted by great numbers in all parts of the country as a statement of the science and medical practice as enunciated by the most prominent men of the period. It is therefore a duty to carefully examine those novelties in doctrine and in practice which are brought here, and subject them to the test of the advanced science of the day and the accumulated experience of the past.

I will mention one other reason which has had a strong influence in overcoming my reluctance to do this work, and that is in the interest of the Academy.

In view of some past controversies outside of the scientific aims of this body, it seems to me desirable and important that the profession at large should understand that in his hall there can be the strongest antagonism in scientific doctrines and in questions of practice, and the keenest encounters in intellectual gladiatorship, carried on with all the courtesy of the duello, without individual hostility or the interruption of personal friendship.

I think most present know the great reluctance which I have to writing, especially the mechanical part—and that other engrossing work leaves me little time for this, except what should be passed either in rest or in recreation, and will therefore thoroughly appreciate the great reluctance with which I have undertaken the duty.

All will agree that the paper was remarkable for its originality, in that some of its pathological doctrines and the practice inculcated for the prevention and treatment of puerperal fever have never been taught in any work on obstetrics, or by any writer of acknowledged repute. If they are accepted by the common intelligence of the profession, they will assuredly be found in the obstetrical works of the future.

As there are many others who will take part in this discussion, whom all will be anxious to hear, and as the author of the paper is entitled to all the time he may wish to close the debate, I shall, in the most concise language consistent with clearness of statement, give my reasons for thinking that the whole tone and coloring of the paper are mislead-

* Professor Lankester's Address, in "Science," October 12, 1883.

† "Med. and Surg. Reporter," August 17, 1883.

‡ Read before the New York Academy of Medicine, February 7, 1884, at the adjourned discussion of the paper on this subject by T. Gaillard Thomas, M. D., which was read before the Academy December 6, 1883, and published in full in the "New York Medical Journal," December 16, 1883.

ing and dangerous, because it is supersaturated with septic infection. I would not "speak disrespectfully" of puerperal septicæmia. I believe it to be one of the most dangerous incidents which may occur to women after childbirth, and I trust that it will not be regarded as indelicate if I allude to the fact that in a work on puerperal diseases, published more than ten years ago, a lecture devoted to the consideration of this subject in all its relations fills thirty-seven pages. With the most anxious desire to correct any errors of opinion, and to accept any new views which progressive science or increased and more accurate clinical observation has demonstrated to be true, I have yet found no reason to make any essential change of the views expressed in that lecture.

In the paper which we are now to discuss, the author distinctly avows his belief, without any qualification, that "puerperal fever is puerperal septicæmia," and that "it matters not whether it assume the form of metritis, phlebitis, cellulitis, peritonitis, or lymphangitis, the essence of the disorder is a poison, which is absorbed into the blood of the parturient woman through some solution of continuity." Not only the sentence quoted, but the whole tenor of the paper must convey to the unbiased mind that it is the well-defined opinion of the author that metritis, phlebitis, peritonitis, and cellulitis are never seen in the puerperal woman except as the result of an initial lesion, which permits the absorption of a specific poison through the parturient canal, either from the atmosphere or from direct infection by doctors or nurses from neglect or carelessness, or other agents brought in contact with the sexual organs.

The tendency to this pathological view has been rapidly growing within the past few years, as a result of the enthusiastic interest excited chiefly by the important investigations of our German co-workers, who have so zealously studied the character and effects of the micro-organisms in puerperal women in hospitals. In several of the most recent and the most excellent systematic works on obstetrics I have observed that nothing is said of the various local phlegmasiæ which are liable to arise in puerperal women as a consequence of parturition, and that they are only alluded to in connection with the subject of septicæmia. This seems to me a very grave omission, which must seriously embarrass young obstetricians, who consult these works for information when normal convalescence is interrupted by any of the local inflammations. No one, as yet, has maintained that the process of parturition and the puerperal state exempt a woman from those causes which induce local inflammation in the non-puerperal, or will deny that the process of parturition, and other attendant conditions besides the absorption of septic poison, may be the efficient cause of local inflammation; and I here state my conviction that in private practice, when there is no epidemic influence, twenty cases of local inflammation, due to such causes, will be met with where one will be found due to septic absorption.

It is hardly necessary to say, as I have before expressed the same opinions in a work published some years ago, that I am in entire accord with the author in his preliminary remarks as to the peculiarities in the system of puerperal

women. I suppose that all educated men now know that the blood of a pregnant woman is in a state of hyperinosis, and that, as a rule, "her nervous system is in a plus state of sensitiveness and excitability, and influences which are very controllable in the non-puerperal state produce very evil results here." But it is very evident that in certain points our opinions are wide apart. He regards certain conditions, which always are found following normal labor and always occur in normal puerperal convalescence, as pathological, but which I believe to be purely physiological.

The ancients believed in the poisonous nature of the menstrual fluid. Pliny described the menstrual fluid as a "fatal poison—which corrupts and decomposes urine, deprives seeds of their fecundity, destroys insects, that it blasts the garden flowers and grasses, and causes fruits to fall from their branches."

I had supposed this superstition to be extinct until informed by a letter from my friend, Dr. Weir Mitchell, that he knew "old men who would not permit a woman to enter their wine-room, for fear that, if menstruating, it would injure their wines." He also informed me that "in Roquefort women are not allowed in their cheese cellars." I suppose the theory must be that menstrual bacteria will destroy the bouquet of the Roquefort cheese.

But on the evening of December 6, 1883, in this Academy of Medicine, I first heard the full evolution of this doctrine clearly enunciated. The lochia are described as an offensive fluid, made up of dead and decaying animal tissues, which poisons freshly made unprotected wounds. I quote textually two paragraphs:

"In every case of child-bearing the endometrium is thus encumbered, and freed by a process of exfoliation and sloughing; in every case the cervix, vaginal mucous membrane, perineum, and vulva are, in varying degrees, lacerated; and in every case the offensive fluid, called lochia, poisons these freshly made, unprotected wounds."

Again the writer says: "Here we have a number of recent wounds constantly and unavoidably bathed with a fluid made up of dead and decaying tissue, animal tissue in a woman whose blood and nerve states are, with reference to septic disease, like flax prepared for the spark, and who is exhausted by pain, anxiety, loss of blood, and deprivation of sleep."

Other quotations might be given of a similar tenor, and the prophylactic measures, which he asserts "should be adopted in all midwifery cases, whether they occur in hospital or in private practice," are based mainly on this theory.

Can it be true that the process necessary for the birth of the human race is always attended with the development of a deadly poison whose malignant effects must inevitably prevent the spontaneous and kindly healing of such little traumatisms as always result from the process, and that, therefore, it is the duty of the accoucheur to take preventive measures of the character proposed? Does every parturient woman, in performing the function of maternity, like the scorpion,* that carries in its tail an agent for suicide, if

* The late Professor William H. Van Buren used to narrate that, when a surgeon in the army and stationed in Florida, he had often seen the soldiers amuse themselves by placing a scorpion within a

death is threatened by fire, physiologically generate an equally fatal poison in a corresponding locality, which the obstetrician must guard against by means that are most inconvenient, alarming, and not altogether free from danger!

I do not intend now to examine the question, which I have before discussed very thoroughly, and my views have long been published, whether there is not a distinct disease, most appropriately denominated puerperal fever, when, if there be any septicæmia, it must be a consequence of a primary disease, and not a cause. Nearly a hundred years ago the eminent obstetrician of London who succeeded Denman, Dr. John Clarke, wrote as follows in regard to puerperal fever: "Unfortunately, the uniformity of the disease was assumed, and each author erected his own experience into a standard, by which to judge of the descriptions and the practice of others." This observation, which I read early in my professional life, made a strong impression on my mind. I trust that it will not be deemed egotistical that it had great influence on my mind during the twenty-five years that I was engaged in teaching medical students, as I felt strongly the responsibility of the position, and that I should be culpably negligent in my duty if I simply gave the results of my own observations, or the opinions of a limited number of observers, or the theories of a few popular authorities, but that I was bound to give the sum of the knowledge which had become a part of the common stock of the profession. For reasons which will be obvious, I felt this more strongly in regard to puerperal fever than any other subject which I had to discuss either before medical students or in medical societies. More has been written on this than on any one disease. It has been a terribly fatal disease in lying-in hospitals in all the great cities where such hospitals are found. It has been fatal as an epidemic in rural districts, where within a certain area every woman in a sparsely settled population, who gives birth to a child, for a certain limited period is affected, and a large proportion die. I could refer to very many published reports of such epidemics which have occurred in villages and towns where for twenty-five or thirty years previous not a single death has occurred in childbirth except from the casualties of labor, such as rupture of the uterus, hæmorrhage, and convulsions.

All we know of any disease is derived from the study of its ætiology, its clinical phenomena, and its anatomical lesions. The epidemic disease to which I have just referred differs in all characteristic points from what is known circle of fire. After vain and frantic efforts to escape, it would stop, strike its tail into its head or body, and instantly die.

Byron refers to these insect Catos in the following lines:

"The mind that broods o'er guilty woes

Is like the scorpion girt by fire,

In circle narrowing as it glows,

The flames around their captive close,

'Till, inly scorched by thousand throes,

And maddening in her ire,

One sad and sole relief she knows:

The sting she nourished for her foes,

Whose venom never yet was vain,

Gives but one pang, and cures all pain,

And darts into her desperate brain."

—*The Giaour.*

as septicæmia. It differs in its origin, its modes of attack, its symptoms, and its anatomical lesions. The symptoms are frequently manifested a day or two before or even during labor, even when the child is subsequently born alive. In septicæmia the symptoms are never observed before or during labor, except when the fetus is putrid. The former disease, puerperal fever, originates from epidemic causes, and from contagion and infection. The latter, from nosocomial malaria, from autogenetic infection, and from direct inoculation. Can a woman after childbirth be exposed to the danger of receiving the poison which produces septicæmia in larger doses than when she has retained in her uterus a portion of putrid, decomposed placenta? Yet I do not believe there is a single person who has had considerable obstetric practice for twenty years who has not had more than once to remove portions of putrid placenta which has been retained for days, and the patient has had no disturbance of such severity that he would call it puerperal fever. In the Texas "Courier-Record," December, 1883, Dr. H. C. Ghent, of Belton, Texas, gives an amusing report of a case to which he was called three days after labor. She was attended during labor by an ignoramus, who appears to have used considerable force, and probably made some efforts to extract the after-birth. The patient, before he left, called his attention to something like a cord protruding from the vagina, which he said would, perhaps, come away by piecemeal. On his visit the next day, he at first said that a protrusion from the vagina was a false conception, but afterward pronounced it a falling of the womb, which, after a considerable length of time, he succeeded in replacing, and had the anxious husband engaged for twelve hours in constructing an abdominal supporter. On the third day, Dr. Ghent removed a large portion of the placenta and membranes, a putrid mass, with a stench which "was about as much as an ordinary pair of olfactory nerves could well bear." The patient had a quick pulse and high temperature, the constitutional disturbance was easily allayed, as it seems that a "few thorough washings with hot carbolized water" was all the treatment required.

(To be continued.)

ON THE VALUE OF INTERNAL CESOPHAGOTOMY

IN THE TREATMENT OF CICATRICAL STRICTURE.*

By HENRY B. SANDS, M. D.,

PROFESSOR OF THE PRACTICE OF SURGERY IN THE COLLEGE OF PHYSICIANS
AND SURGEONS, NEW YORK; SURGEON TO THE ROOSEVELT HOSPITAL.

My object in the present paper is to consider the value of the operation known as internal cesophagotomy, and to give the particulars of an aggravated case of stricture lately under my care in which this procedure was carried out with a gratifying amount of success. My remarks will relate only to that form of stricture denominated simple, fibrous, or cicatricial, inasmuch as the operation in question is one of doubtful utility in cases of stricture due to the development of a malignant growth.

* Read before the New York Surgical Society, January 22, 1884.

Simple stricture of the œsophagus is probably always preceded by inflammation or ulceration of one or more of its component layers. Systematic writers describe a number of varieties of inflammation—such as catarrhal, syphilitic, phlegmonous, and traumatic—any one of which may lay the foundation of stricture. From an ætiological point of view, however, œsophageal strictures are distinguished by the fact that a vast majority of them are due to the reactive inflammation which follows contact with some highly corrosive liquid, such as sulphuric, nitric, or hydrochloric acid, or a concentrated solution of caustic potash. A consideration of the effects produced by these substances, when accidentally or intentionally swallowed, is essential to a correct appreciation of the pathology and treatment of the lesions that may ensue. These effects vary greatly in different cases, according to the amount of the liquid taken and its degree of concentration. They may be limited to a part or the whole of the œsophagus, or may also extend to the stomach. If the poison is undiluted, and the quantity large, death usually occurs soon after the injury, in consequence of sloughing inflammation of the stomach and œsophagus. The slightest lesion observed consists in a destruction of the epithelial lining, which is soon cast off and regenerated. The cases that possess a surgical interest lie between these extremes. The destructive action may be restricted to the œsophageal mucous membrane, or may involve the subjacent connective tissue, or even the muscular coat. It may be confined to a very short portion of the tube, or may extend throughout its entire length. Furthermore, it may include a part or the whole of its circumference. Accordingly, when the substance which has been destroyed and cast off is replaced by adventitious fibrous tissue, one or more strictures will result, varying in situation, character, and extent. Avoiding details, which are familiar to all, or which are irrelevant to the present discussion, I would draw attention to certain points of contrast between several recognized varieties of stricture, which have an important relation to the prognosis and treatment of the disease. *Ceteris paribus*, the gravity of a stricture will be greater in proportion to its length. And when we remember that a narrowing of any considerable portion of the length of the œsophagus rarely takes place unless the corrosive action of the poison has been intense, and that the long, tubular strictures which result therefrom are usually dependent upon the production of an abundant quantity of cicatricial tissue and are correspondingly narrow, indurated, and unyielding, as well as often tortuous, we can readily understand why, as a rule, such strictures are amenable neither to dilatation nor to internal division, but demand gastrostomy, as the only available means of prolonging life.

Provided a stricture is permeable to instruments of moderate size, its length can usually be ascertained by the use of a bulbous bougie. The upper limit is indicated when the bulb meets with resistance before it enters the stricture, and the lower limit as it again encounters resistance on being withdrawn. Œsophageal strictures, as I have already stated, vary greatly in their longitudinal extent, and, classified according to their variations in this respect, they may, like strictures of the urethra, be spoken of as linear, annular, or

tubular. Another variety of stricture is that in which the cicatricial tissue is of limited horizontal extent, so that it does not embrace the entire circumference of the œsophagus. It may then form a more or less rigid, valve-like projection against the opposite unaltered wall, causing the orifice of the stricture to have an eccentric position. Trélat,* in 1870, proposed to diagnosticate this peculiar condition by means of a demi-bulbous bougie, whose expanded extremity is flat on one side and convex on the other. By introducing the bulb beyond the stricture, and presenting its convex surface toward different parts of the circumference of the œsophagus while making successive attempts to withdraw it, the situation of the callous deposit may be determined by feeling the greater resistance which it opposes to the withdrawal of the instrument. The practical application of the information thus obtained will presently be apparent.

Perhaps I can adopt no better plan of stating my own views regarding the value of internal œsophagotomy as a surgical expedient than by combining them with the record of a case in which I have recently performed the operation:

Addie B., aged eight years, came under my care on January 10, 1883, having been sent to me by Professor William H. Doughty, of Augusta, Ga., in the hope that something might be done to relieve her of an œsophageal obstruction which had been caused by the accidental swallowing of a mouthful of a strong solution of caustic potash on September 27, 1882. No alarming symptoms immediately followed the accident, but deglutition was always afterward more or less difficult and painful, rendering necessary a fluid diet, which consisted chiefly of milk. Dysphagia began to be severe early in November, and was attended with rapid emaciation, the child's weight having been reduced from 44 to 41 pounds in the week preceding November 16th. Subsequently a slight improvement took place; but toward the end of December the patient's condition grew very alarming, and it was found necessary to resort to rectal alimentation. Early in January, dilatation of the stricture was attempted; no progress was made, however, and, fearing that the child's situation might at any time become desperate, Dr. Doughty recommended that she should be brought to New York, for the purpose of being benefited, if possible, by surgical treatment. At the time of my first visit, on January 10th, I found her very weak, emaciated, and dejected; and evidently threatened with death from starvation. Deglutition had become almost impossible, and the rectum had become somewhat intolerant of enemata. On exploring the œsophagus, I discovered a tight stricture, situated nearly opposite to the middle of the sternum, at a distance of eight inches and a half from the incisor teeth. The stricture was impassable to instruments, and the daily attempts I made to penetrate it were unsuccessful until January 16th, when I was able to introduce a filiform whalebone bougie, having a diameter of two thirds of a millimetre. During the ensuing five months dilatation was practiced almost every day, but made very slow progress, as is shown by the following record:

January 24th.—Passed elastic bougie No. 6. (F.)

February 1st.—Passed No. 9. (F.)

3d.—Passed No. 11. (F.)

29th.—Passed No. 12. (F.)

March 15th.—Passed No. 13. (F.)

April 11th.—Passed No. 14. (F.)

* "Bull. gén. de thérapeutique," Paris, 1870, p. 282.

27th.—Passed No. 15. (F.)

May 8th.—Passed No. 16. (F.)

28th.—Passed No. 17. (F.)

On February 1st I succeeded in introducing an elastic catheter having a diameter of three millimetres, which proved large enough to allow the injection of milk into the stomach whenever the child was unable to swallow. Until this time her condition had been extremely precarious, and the question of performing gastrostomy was more than once debated. But, on the one hand, the patient seemed too feeble to bear the operation, and, on the other, her father's repugnance to such a procedure was invincible. Later the dysphagia diminished, so that she was able to swallow an abundance of fluid food consisting of milk, soup, and raw eggs, and toward the end of May it was found that she had gained twelve pounds in weight since her arrival in New York. Nevertheless, it had meanwhile become evident that the stricture was of the most obstinate character; for, whenever a single day passed without an attempt to dilate it, a contraction would take place, rendering necessary the use of smaller instruments, the employment of which sometimes caused considerable pain. Being convinced that further treatment by dilatation would be useless, and perhaps dangerous, by allowing accidental injury to the œsophagus, I decided to resort to internal œsophagotomy as the most promising expedient under the circumstances.

I was encouraged to anticipate success from the operation in the present case especially in view of two considerations: First, I had ascertained, by careful explorations made with demi-bulbous bougies, that the stricture was due to the presence of a narrow ring of fibrous tissue, occupying only a quarter of an inch of the length of the canal. Secondly, on introducing beyond the stricture an instrument which I devised for the purpose of examining the deeper parts of the œsophagus, and which is constructed on the same principle as Dr. Weir's urethrometer, I found that when the bulb was expanded to its utmost limit—No. 28 (F.)—no other contraction could be detected. Accordingly, it appeared probable that great benefit must result from internal division of the stricture, provided this could be safely accomplished. But the operation is well known to be hazardous; and, perhaps for this reason, it has been rarely undertaken since it was performed, for the first time, by its inventor, Maisonneuve, in 1861.* Mackenzie,† who published, a few months ago, an interesting article containing the statistics of internal œsophagotomy, was able to cite only eleven cases in which this operation had been performed for cicatricial stricture; and of these three, or 27·28 per cent., proved fatal. The operation is condemned by many surgical writers, and is not even mentioned in some of our popular textbooks. When we reflect, however, that the natural termination of this disease is death by starvation; that there are many cases like the one herewith reported which baffle the most patient attempts at dilatation; that the operation required to establish an artificial opening in the stomach, for the purpose of feeding, is one which is likewise dangerous, and which, even when successful, places the patient in a deplorable condition, and can not be contemplated without some feeling of disgust; and that, finally, internal œsophagotomy is an operation which aims to re-establish a function so important as that of deglutition, we must acknowledge that it merits the most attentive study, with the view of determining the class of cases to which it is applicable, and of adopting the safest and most efficient method of performing it. Undoubtedly, the cases most favorable for the operation are those in which there is only a single stricture, of slight longitudinal extent. Conversely, little hope of benefit from it can be entertained when the stricture is long, tortuous, and indurated. We notice here a close analogy between strictures of the urethra and those of the œsophagus. In bad cases of urethral stricture, however, which are not curable by internal division, we can often resort with success to external urethrotomy, while external division is a procedure very rarely adapted to œsophageal stricture, on account of the usually inaccessible situation of the affected parts.

The dangers of internal œsophagotomy depend on the important relations of the gullet. In different parts of its course it is in close proximity to the pneumogastric and the recurrent laryngeal nerves, the trachea, the left bronchus, the pericardium, the aorta, the azygous vein, and the pleura. The loose connective tissue behind the œsophagus is prone to suppurate when injured, or when food or other irritating substances come into contact with it. Some of the risks attending the operation may be gathered by a perusal of the recorded cases. In Maisonneuve's hands two proved fatal from peritonitis, apparently not dependent on the operation, as at the autopsy the incisions were found not to have passed beyond the limits of the callous tissue, while the surrounding parts were free from inflammation. Braun* conjectures that in both these cases the stomach may have been accidentally perforated by the metal conductor which forms a part of the œsophagotome, although Maisonneuve alleges that no such perforation could be discovered on careful examination. Trélat's patient had severe hæmorrhage after the operation; and death, in a case related by Schilz, was probably due to this cause. In Czerny's case, the incision doubtless perforated the œsophagus, for emphysema of the neck was noticed a few hours subsequently to the operation, and after death a large abscess was discovered in the posterior mediastinum, communicating with the œsophagus and with the right pleural sac. Likewise, in a fatal case recorded by Mackenzie, pneumonia supervened soon after the operation, and, at the autopsy, a purulent collection was found in the right pleura. Omitting further allusion to Maisonneuve's cases, in which there is no demonstrable connection between the fatal event and the operation, it is evident that the chief danger of internal œsophagotomy is either that of accidentally cutting the healthy vascular tissues, thereby causing hæmorrhage, or of making the incision so deep as to injure one or more of the important parts with which the gullet is in relation. An ideal operation, therefore, would be one in which the cicatricial tissue alone is divided, and in which the peri-œsophageal structures are left intact. We are thus led to examine the different methods which have been employed, in order to ascertain to what extent these requirements have been fulfilled.

* Maisonneuve, "Clinique chirurgicale," Paris, 1864, tome 11, p. 409.
† "Ann. Jour. of the Med. Sci.," 1883, vol. lxxxv, p. 420.

* Czerny, "Beiträge zur operativen Chirurgie," p. 76.

† "Bull. gén. de thérapeutique," 1870, p. 259.

Maisonneuve's instrument is similar in principle to his well-known, admirable urethrotome. It has a conductor, consisting of a slender, flexible bougie, to which is attached a flattened steel guide, four millimetres in breadth, and grooved on opposite sides to receive the blades. The latter are two in number, each one being twelve millimetres in breadth, of triangular shape, and having a cutting edge limited to its anterior third, the remainder being quite blunt. The guide having been introduced through the stricture into the stomach, one of the blades, the edge of which is directed laterally, is passed slowly and gently along the conducting groove until it reaches the stricture, when it is advanced with a sufficient degree of force to overcome the resistance. The second blade is then introduced in the same manner, making an incision through the opposite side of the stricture; finally, the entire instrument is carefully withdrawn.

Studsgaard employed an instrument resembling Maisonneuve's, but having a concealed double-edged blade.

Lannelongue's œsophagotome also resembles Maisonneuve's, but it has only a single blade, which is protected by a sheath. The projection of the cutting edge is fifteen millimetres.

Trélat invented an instrument by which he divided the stricture by cutting from below upward. It is provided with two blades, each being four centimetres in length, and concealed within a metal tube four millimetres in diameter and six centimetres in length. By turning a screw in the handle of the instrument, the blades can be projected to any distance not exceeding two centimetres. Owing to the length of the blades, they have a very gentle slope, which facilitates their passage through the tissues that require to be divided.

Dolbeau operated by the retrograde method, using an instrument provided with a conical tip, in which were concealed two lateral cutting blades. The bulb was made just large enough to pass through the stricture, and the blades could not be projected beyond the diameter of the cone.

Czerny and Mackenzie have also performed the retrograde operation with instruments of their own invention, each being furnished with a single blade.

On comparing these several instruments, it will be found, in the first place, that some are arranged so as to cut from above downward, while with others the incision is made from below upward. Recent writers have invariably, and perhaps rightly, condemned all instruments belonging to the former category; but their objections do not seem to me the strongest that might be offered. Whether the incision is made from above downward, or in the contrary direction, is of itself a matter of little moment. It has been said that, when the incision is made by thrusting the knife downward, the œsophageal wall below the stricture is especially liable to be perforated; but I can not understand why this should happen without carelessness on the part of the operator, nor am I acquainted with any clinical or pathological evidence in support of this assertion. The great disadvantage of the anterograde operation seems to be the necessity of introducing a sharp metallic guide considerably beyond the stricture before the blade can be safely used. This ma-

nœuvre was found to be extremely difficult by both Maisonneuve and Lannelongue, and it must be attended with no slight risk of causing perforation. In operating by the retrograde method this danger is diminished by the flexibility of the instrument employed, as well as by the circumstance that its extremity can be made blunt, and need not be introduced far beyond the seat of stricture. On the other hand, in a case of stricture of very small caliber, Maisonneuve's operation would have the advantage that it could be performed with a guide not exceeding two millimetres in diameter, while an instrument intended to cut from below upward can hardly be made with a diameter less than four millimetres.

A second difference to be noted is that some instruments are provided with only a single blade, while others have two blades, so arranged as to cut in on opposite sides. There can be no doubt that the safety of the operation is increased when only one blade is employed, which can be directed with precision toward any part of the circumference where division of the cicatricial tissue is indicated.

The last and most important contrast to be observed is the different depth to which the incision is extended, or may be extended, with different instruments. This is very great, Dolbeau's instrument, for example, being so constructed as to permit mere scarification, while in that employed by Trélat the distance between the cutting edges of the two blades, when fully projected, is two centimetres. In endeavoring to estimate the relative value and safety of shallow and deep incisions in the treatment of stricture of the œsophagus by internal division, we must take into account certain facts revealed by pathological anatomy. It is well known that in strictures of equal caliber the thickness of the fibrous material on which the constriction depends varies greatly in different instances. Thus, a stricture which will admit only a filiform bougie may be owing to the presence of a narrow ring of cicatricial tissue not exceeding one or two millimetres in thickness, while in another stricture of the same caliber the thickness of the constricting band may exceed a centimetre. It is evident that in the former case a shallow incision would relieve the constriction, and that in the latter a deep incision would be required for the same purpose. It is also plain that in the former case a deep incision would be liable to extend beyond the outer circumference of the œsophagus. Indeed, this accident occurred and proved fatal in Czerny's patient, although the incision was only two millimetres in depth. Unfortunately, we have no means of determining in the living subject the exact thickness of the callous deposit, and are, consequently, left in uncertainty regarding the needful depth of the incision in any given case. A shallow cut may be useless; a deep one may be fatal. Notwithstanding our want of knowledge as to the condition of the diseased parts, we may, I think, proceed in such a manner as to overcome the constriction without subjecting the patient to any extraordinary risk. As, in spite of every precaution, the edge of the knife may possibly be directed against some part of the œsophagus which has undergone no morbid change, the depth of any single incision ought to be a trifle less than the thickness of its coats, which sometimes does not

exceed two millimetres. Assuming that the stricture is annular, we may make a superficial incision at any point of its circumference, and afterward endeavor to effect dilatation by the introduction of sounds. If we have succeeded in dividing the whole, or even the greater part of the constricting band, rapid improvement will probably follow. Should little or no benefit result from the first incision, a second one may be made at some other point, where, perhaps, the ring may be thinner and less resistant. In case this fails to cause improvement, still another point may be selected for incision, with, perhaps, a more fortunate result; or it may be found expedient to make a number of incisions in the same plane. Much has been said respecting the comparative safety of cutting in different directions, some operators preferring to cut toward the right side, some toward the left side, while others regard a posterior incision as the only proper one. The relations of the œsophagus vary so considerably in different parts of its extent that it is impossible to lay down any rule which would apply to all cases. Perhaps, in a general way, it may be affirmed that an anterior incision is the most hazardous, and a posterior one the least so; but, if we adopt the precaution of avoiding incisions of sufficient depth to penetrate the entire thickness of the œsophageal wall, we may turn the edge of the knife toward any point without incurring much risk of wounding important parts.

(To be concluded.)

THE NECESSITY OF PRIMARY PERINEORRHAPHY.*

By CHARLES R. CRANDALL, M. D.

PORTLAND, ME.

(Concluded from page 124.)

Having noted thus far the position and function of the perineal body, the conditions tending to cause its rupture the degrees to which it may be injured, the frequency of the accident, and the means calculated to prevent its being ruptured, let us advance to a consideration of the dangers which may result if the injury does occur and is not promptly corrected. To systematize, I shall refer to the possible dangers as being:

1. Immediate.
2. Secondary.

(1) In the first place, after the rupture of the perinæum to any extent there is the immediate danger of delayed convalescence.

(2) There is the almost immediate danger of contagious infection, septicæmia, and puerperal fever. Force and contusion have torn the natural structures asunder, and in this condition blood-vessels stand open, lymphatics are lacerated and exposed, muscular fibers are separated, and thus is presented a condition favorable, in the highest degree, to sloughing and absorption. Moreover, at this peculiar period the puerperal woman is highly susceptible to the invasion of disease. In all probability her strength is impaired, her nerves depressed from anxiety and shock, her blood

hyperinosed and possibly anæmic, and her genital tract and cervix uteri abraded and lacerated. Under such predisposing conditions, how great is her danger when she must lie for days with a constant stream of morbid exudate, composed of decomposed blood, dead cells, and putrid serum, moving sluggishly over the raw surfaces of her ruptured perinæum!

But to-day there are many who maintain that these dangers are largely visionary, and that, if necessary, they can, in a great degree, be avoided, without resort to an operation, by cleansing the parts, keeping the patient's legs together, and thus favoring union by first intention. But the beauty of this objection is badly marred when one obtains an idea of the number of women who, treated thus, either perish or else, after suffering for a long time, are obliged to submit to a secondary operation. And the theory receives another blow when an eminent authority declares to the profession that "out of thirty cases in which no operation was performed there was only a single one in which union occurred to such an extent that the perineal body was entirely restored; in the twenty-nine there was but slight union." (Garrigues, "The Medical Record," March 20, 1880.)

2. The secondary dangers having origin in a ruptured and neglected perinæum are indeed many.

(1) In the first place, there is the danger of great discomfort and dissatisfaction to the patient. When she arises from her lying-in bed she feels a sense of uneasiness and a dragging-down sensation, which becomes a serious annoyance, and one to which few women ever become kindly accustomed.

(2) There is the almost positive danger of prolapsus uteri and, sooner or later, retroversion. The vagina being large and relaxed, the natural support of the generative organs being destroyed, displacements of some kind follow as an almost inevitable sequence. With displacements, follow, in turn, that miserable *ensemble* of symptoms described as a "bearing-down feeling," frequent desire to urinate, "burning and irritation," inability to stand long or walk far, backache and sideache, neuralgic pains, etc.

(3) A third danger is, that, as the parts become more relaxed from pressure and senile atrophy, there will ensue a prolapse of the bladder, vagina, and rectum, with all the miseries attending those distressing conditions.

(4) If the laceration is complete, there necessarily follows a loss of control over the rectum and anus. Fæcal material and intestinal gases will escape involuntarily, and, as a result, the patient becomes alike disgusting to herself and offensive to her friends.

(5) The danger of a loss of the sexual desire, and the mental misery common to such conditions. It is not uncommon for women whose perinæum is destroyed to complain of loss of sexual desire. Nor is it uncommon to have husbands complain of absence of emotion and imperfection of physical conditions on the part of the wife. Indeed, estrangements have resulted due to a ruptured perinæum, and households have been ruined.

Lastly, there are the secondary dangers of impairment of general health, indigestion, emaciation, nervous disease, neurasthenia, and anæmia. True, all of these dangers do

not develop in every case to the extent described, but there is a possibility that such may be the case, and hence they should be guarded against in every possible manner.

From the dangers that may follow as a sequence to a ruptured and neglected perineum, let us note for a moment the great advantages resulting from a successful primary operation:

1. The operation being successful, the patient arises from her confinement at an early day, feeling practically in a natural condition, as far as her pelvic organs and perineum are concerned.

2. The raw surfaces being covered in and placed in a condition to unite and heal, the patient is guarded against the dangers of septic absorption.

3. Lastly, she is largely protected against the secondary evils incident to a ruptured perineum—such as “uterine displacements, prolapsus, cystocele, urethritis, uterine engorgement and hyperplasia, subinvolution of the uterus and vagina, destruction of the power of the uterine ligament, development of a tendency to abortion, impaired sexual gratification, and neuralgia affecting the site of the rupture.” (Thomas.)

To return to a consideration of the primary operation proper, it will be worth our while to have definite ideas regarding the degree of laceration that requires operative interference. Upon this point there is a great and bewildering diversity of opinion. Some claim that a laceration of more than half an inch into the perineum should be closed promptly with one or more sutures, while others do not believe in interfering with any laceration unless it be complete, and such they would postpone for secondary operation. By way of illustration, it may be said that, in a recent discussion on this important subject in New York city, Drs. Gillette and Little advocated the view of closing every rent by immediate operation; Dr. Lusk claimed that not all cases of slight laceration necessitated the introduction of sutures, but he favored the primary operation when necessary, while Dr. Wood was not in the habit of performing the primary operation, and believed, besides, that lacerations to the first or second degree invariably recover, leaving the parts as normal as they ever are after childbirth. (“Medical Record,” December 1, 1883.) And there are physicians who, after many years of general practice, still ridicule the necessity for an immediate operation upon a ruptured perineum of any extent. They say that a moderate rupture will take care of itself, that they never saw the dangers resulting therefrom that a young practitioner sees, and that they look upon all such performances as being “meddlesome midwifery.” But their methods are crying out against them in scores of women seeking relief from misery after many years of suffering which had origin in a ruptured and neglected perineum. Concerning those who were left with a ruptured perineum, and who soon afterward became the victims of septicaemia, God only knows. As is too often said, “They were lost sight of afterward.”

Of course, owing to the great difference in the formation of women—some being large, others small, some being lean, others fat and flabby—it is, indeed, extremely difficult to draw an arbitrary line and say that all ruptures extend-

ing below this line must be closed immediately with one or more sutures. But may it not be laid down as a sound general rule that a rupture extending into the vagina and perineum more than a half-inch, after the parts have contracted, should be closed with sutures? This may be drawing the line too high up, but better this than too low down, for in closing even slight ruptures the obstetrician does no harm, but rather does his full duty, and gives his patient the advantage of the best condition for rapid and permanent recovery.

But it may occur to some to ask, “Are there not instances where contra-indications preclude the feasibility of primary perineorrhaphy?” In reply I would confess that most assuredly there are, and they should be judiciously observed. With this operation, as with all others, circumstances and conditions are to be considered, and all procedures are to be regulated by the probable welfare of the patient. I will not enter into a description of an exceptional case, because they are so few, but will say that they do exist, and the careful, thinking man will sooner or later run across them. The doctrine which it is the object of this paper to help establish is the necessity of primary perineorrhaphy in all suitable cases, and excepting those which would be unsuitable owing to convulsions, excessive hæmorrhage, excessive exhaustion, advanced stages of organic disease, and mania.

Now permit me, as preliminary to a consideration of the *modus operandi* of primary perineorrhaphy, to say that every physician should go to the lying-in chamber prepared to meet this emergency. He should take with him ether, needles, needle-holder, sponges, sutures, scissors, syringe, and disinfectant. Prepared thus, he will be far more inclined to operate, if necessary, and do his full duty.

Now, how shall the operation be performed?

1. Etherize the patient fully. Complete anaesthesia tends to prevent fright, shock, and muscular contraction.

2. Place the patient in the prone position across the bed, with the buttocks drawn slightly over the edge, and have her limbs held by two assistants.

3. Syringe the vagina thoroughly with warm water, and pack it with two or three new and clean disinfected sponges.

4. Control all bleeding vessels by torsion and all oozing by hot sponges, and bring the parts into perfect apposition.

5. Introduce silver sutures with a straight needle, held by a needle-holder. Enter the sutures about half an inch from the edges of the wound. Inclose enough tissue to afford firmness. Have the sutures emerge exactly opposite each other, so that position and pressure will be accurate. Conceal the sutures as much as possible within the tissues of the recto-vaginal septum. Enter the first suture well down below the wound, and the last one a little above the upper edge of the wound. Cover the twisted ends of the sutures with a piece of rubber tubing. Waxed silk sutures or catgut sutures may be used, and do not cause pain when being removed; but silver ones are best, for they cause less ulceration, do not hold septic material, and can be tightened or loosened at pleasure.

6. The wound now being neatly closed, place the pa-

tient in bed, bandage her legs together at the knees, and give her hypodermic injection of one-fourth of a grain of morphia.

Assuming now that the primary operation has been carefully performed, let us note the steps of the after-treatment. It must be borne in mind that careful attention to details, the help of a good, intelligent, faithful nurse, and full co-operation of the patient, are highly essential to the success of the operation.

1. Keep the patient quiet upon her back as much as possible during the first three days, and do not let her sit up during the first ten days.

2. Have the napkins intended to absorb the lochia changed every two hours, and the bedding kept absolutely clean.

3. Have a warm, carbolyzed vaginal injection given every six hours, and see that the nurse knows how to give it. Have the vagina and genitalia thoroughly cleansed after each act of micturition.

4. Allow the patient to use the bed-pan at her pleasure; but, if she is unable to do so, have her catheterized twice daily with a new, clean, soft-rubber catheter.

5. Give her morphia sufficient to avoid pain.

6. Give her a light, restricted, liquid diet, composed largely of animal broths and beef-tea, during the first few days. Milk is objectionable in these cases, for it often generates a great amount of intestinal gas, tends to constipate the bowels, and creates a bulky, scybalous stool.

7. In cases of laceration of the second degree, induce a "soft movement" of the bowels on the third day with a saline laxative and enema of warm water, and insure a similar movement each day thereafter. It was formerly the practice to keep the bowels "locked" for seven or ten days, but it has been found that patients do better and success is greater when the bowels are allowed to move early and daily. In the first and third cases in my own practice, referred to previously, the bowels were moved by the third day, and success was perfect. When the bowels are confined for a week or more there is danger from intestinal irritation, fever, bulky stools, and rectal distension. In cases of complete laceration, all authorities formerly advised keeping the bowels closed for ten days; but now the view is changing, for it has been found that success is most frequent where the bowels move daily after the third day.

8. Keep the temperature of the room at about 70°; have good ventilation; avoid draughts; let in an abundance of sunlight.

9. Do all things to keep the patient cheerful, hopeful, and comfortable.

10. Remove the stitches about the seventh day. It must be borne in mind that union by first intention in the perinæum takes place early and rapidly, if at all, for the parts are held in firm apposition and are highly vascular.

The prognosis of primary perineorrhaphy, when properly performed, is favorable in almost every case. Analysis of a great number of cases has not yet afforded absolute data, but the reports of different men, who have made a practice of performing the operation, furnish us most gratifying intelligence. In illustration, Dr. Page, of New York,

in a recent article on this subject, makes the following statement:

"Of a collection of 100 cases, including all degrees of rupture, 90 were cured, 9 improved, and 1 was not improved." ("Medical Record," December 1, 1883.) And Dr. Lusk, in the same journal, gives his results by saying, recently, in looking over his hospital obstetric record, he found that he had operated in 24 cases, 23 of which were successful, and in 1 there was partial failure, due to a certain amount of carelessness with which the operation was performed. It is evident, then, that well-directed efforts to perform the operation are very likely to be followed by success.

Before concluding my lengthy advocacy of primary perineorrhaphy, I beg to put upon it the indorsement of some of the leading minds of our profession in different parts of the world.

"The operation should be performed just after delivery." (Scanzoni.)

"If it (the perinæum) has given away to any extent, I believe that it is good practice to insert one or two interrupted sutures of silver wire or carbolyzed gut at once." (Playfair.)

"You must therefore make a clean breast of the mishap to the patient, and perform the primary or immediate operation—that is to say, you must at once sew up the wound." (Goodell.)

"If the perinæum be lacerated, it should be closed at once by suture, to shut up this avenue of septic absorption." (Thomas.)

"The primary has been so successful in a large number of cases, and is so simple in its performance, and does so much to prevent the woman from suffering during child-bed, avoid suffering for weeks or months before the secondary operation is performed, that it seemed to him there could be no doubt with regard to the propriety of the primary operation." (Lusk.)

Lastly, the parturient and puerperal state is an epoch attended with great suffering and peril. From the time the woman takes her couch in labor until she has regained her usual state of health, and has resumed the ordinary duties of life, dangers beset her on every hand. The perils of mal-presentation, convulsions, ruptured uterus, ruptured perinæum, hæmorrhage, septicæmia, inflammation, peritonitis, and puerperal fever make up a group that may well cause almost every woman to exclaim, "I know I shall die!" So dreadful, then, are the perils of the birth-giving hour, so solemn and serious is the welfare of the mothers and children and homes all over the world, that every physician who undertakes to conduct a woman through the many dangers of the supreme hour of her life should, as a matter of conscience, measure well the height and depth of his responsibility.

Authorities referred to.

LUSK.—"Science and Art of Midwifery."

THOMAS.—"On the Diseases of Women."

GOODELL.—"Lessons in Gynæcology."

BARKER.—"The Puerperal Diseases."

PLAYFAIR.—"System of Midwifery."

THE
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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, FEB. 9, 1884.

THE PROPOSED STATE EXAMINING BOARD.

THE greater portion of the time of the Medical Society of the State of New York, on Wednesday, was taken up with the discussion of this subject, and the conclusion arrived at was in consonance with the opinion we expressed last week—that no specific measure would be pressed upon the Legislature during its present session. Two bills came up before the meeting, each of which was urged with much fervor. One of these bills was substantially an elaboration of the Erie County society's bill, reported on favorably by the Committee on Legislation. The other was a bill prepared and advocated by a number of gentlemen representing the three great colleges of the city of New York. The latter had been very carefully drawn, and contained some excellent provisions, but it so restricted the powers of the proposed board as to render it unacceptable to the active promoters of the plan to dissociate the teaching bodies from the licensing power, some of whom, indeed, looked upon it as in this respect open to the criticisms we applied to a certain bill last week. Its advocates, however, showed a commendable willingness to modify it, and, although the early part of the debate was heated and almost acrimonious, moderation finally arose in each party, and the action reached at the close we must regard as, under the circumstances, most fortunate. A special committee formed of the Committee on Legislation, together with three gentlemen representing as many colleges, was directed to report a bill at the next annual session. From the constitution of this committee, it can not be doubted that a bill will be drawn that will satisfy all reasonable requirements in the case.

THE NEW CODE STANDS.

ONE year ago, under this caption, we announced that the Medical Society of the State of New York had confirmed its new code of ethics at a meeting which, up to that time, was the largest ever held. We have now to record that, on Tuesday last, at a meeting still larger, that action was reaffirmed. On the 6th of February, 1883, the vote on Dr. Squibb's motion to repeal the new code stood ninety-nine ayes to one hundred and five nays; on the 5th of February, 1884, the vote on Dr. Didama's motion to the same purpose stood one hundred and five ayes to one hundred and twenty-four nays—a gain of six votes in favor of restoring the old code, and of nineteen against it.

Thus the society has verified the prophecy we ventured to make in our last issue, that the new code would be reaffirmed, and very likely by an increased majority over that of last year. It seems altogether improbable that this action will ever be reversed, for greater efforts to accomplish that result could not

well be made than have been made already. Up to the time of this writing, no notice has been introduced of any further attempt at its reversal, so that it seems reasonable to suppose that the next annual meeting of the society will not be vexed with the ethical question. We trust, indeed, that the question will never again come up before the society, but that hereafter its sessions may be devoted to the consideration of matters free from the asperities that have characterized the contest now ended.

MINOR PARAGRAPHS.

A NEW STATE SOCIETY.

AFTER the action taken by the Medical Society of the State of New York last Tuesday, whereby the movement to restore the code of ethics of the American Medical Association was defeated, a number of the most prominent adherents of the movement met at the Delavan House, in Albany, and took measures for the organization of a new State society, to be known as the New York State Medical Association. It is understood that membership in any county society will constitute eligibility to the new society. We are not informed that the promoters of the new organization have severed their connection with the old one, and it is to be hoped that they will not do so, for it is in the nature of things that the rancor engendered by the ethical strife will vanish in due course of time.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 5, 1884:

DISEASES.	Week ending Jan. 29.		Week ending Feb. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	1	1	0
Typhoid Fever	8	2	10	4
Scarlet Fever	90	11	94	12
Cerebro-spinal meningitis	6	4	6	6
Measles	52	14	39	4
Diphtheria	59	20	27	10
Small-pox	1	0	0	0

THE RETIREMENT OF PROFESSOR COURTNEY from the Montpelier Faculty of Medicine is announced.

MESSRS. BIRMINGHAM & Co., the medical publishers, inform us that they have resumed business.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—We understand that Dr. E. C. Spitzka has resigned, and is succeeded by Dr. Ambrose L. Ranney in the chair of the anatomy and physiology of the nervous system.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 26, 1884, to February 2, 1884:*

ALEXANDER, CHARLES T., Major and Surgeon. So much of Par. 7, S. O. 211, September 14, 1883, as directs him to report in person to the commanding general, Department of the Missouri, for duty, is revoked, and he will, upon the expiration of his present leave of absence, proceed to St. Louis, Mo., and assume duty as attending surgeon and examiner of recruits in that city. Par. 1, S. O. 21, A. G. O., January 25, 1884.

ELBRET, FREDERICK W., Captain and Assistant Surgeon. Present leave of absence extended six months. Par. 9, S. O. 24, A. G. O., January 25, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending February 2, 1884:*

BATTLE, S. W., Passed Assistant Surgeon, detached from U. S. S. Gedney and placed on sick leave.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, February 11th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society.

Tuesday, February 12th: New York Academy of Medicine (Section in Surgery); New York Surgical Society (private); East River Medical Association (private); Medical Societies of the Counties of Rensselaer and Ulster, N. Y.; Jersey City Pathological Society; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, February 13th: American Microscopical Society of the City of New York; New York Pathological Society; Medical Society of the County of Cayuga, N. Y.

Thursday, February 14th: New York Laryngological Society; Harlem Medical Association (private); Brooklyn Pathological Society; Medical Association of the Eastern District of Brooklyn.

Friday, February 15th: Yorkville Medical Association (private).

OBITUARY NOTES.

PROFESSOR REICHEBT, OF BERLIN.—Professor Reichert, whose retirement from the chair of anatomy in the University of Berlin we lately chronicled, died on the 21st of December, after a short illness.

ELISHA HARRIS, M.D., OF ALBANY.—Dr. Harris died on Thursday of last week, in his sixtieth year, after a short illness. He was a native of Vermont, and a graduate of the College of Physicians and Surgeons of the City of New York. For a short time after taking his degree he practiced medicine, but the greater part of his life was spent in executive and statistical work in connection with various sanitary boards. On the organization of the Metropolitan Board of Health, in 1866, he was appointed Registrar of Records, and served the board in that capacity and in others for several years. When the State Board of Health was established he was made its secretary, and held that position up to the time of his death. It is understood that his last illness was a recurrent attack of perityphlitis.

Dr. Harris was a man of pleasing and impressive presence, an ardent laborer in the field of sanitation, and a faithful and untiring public officer.

ADDISON P. DUTCHER, M.D., OF CLEVELAND, OHIO.—Dr. Dutcher died on Wednesday, January 30th, in his sixty-sixth year. He was born in Durham, Greene County, New York, October 11, 1818, and began the study of medicine in 1834, under Dr. John Shanks, of New York, and subsequently entered the office of Dr. Edward H. Dixon. In 1839 he was graduated from the College of Physicians and Surgeons of New York. After practicing in Cooksburry, N. Y., and in Eaton, Pa., for a short time each, he settled, in 1847, in Enon Valley, Pa., where he resided seventeen years. In 1864 he accepted the chair of the principles and practice of medicine in the Charity Hospital Medical College of Cleveland, occupying that chair during two terms of the college.

Since 1864 he has lived in Cleveland, where he was held in high esteem as a practitioner and as a citizen. He has contributed freely to medical literature, and was an earnest advocate of the temperance cause, both as a writer and as a speaker.

He was a Fellow of the Cleveland Academy of Medicine, of

which he was president in 1868, an honorary member and ex-president of the Beaver County, Pa., Medical Society, and an ex-member of the Pennsylvania Medical Society.

Letters to the Editor.

THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL, AND THE QUESTION OF THE ABUSE OF MEDICAL CHARITY.

No. 31 WEST THIRTY-SIXTH STREET }
NEW YORK, January 13, 1884. }

To the Editor of the New York Medical Journal:

SIR: Your editorial, in your issue of December 29, 1883, upon "The Abuse of Medical Charities," and citing the action of the authorities of the London Hospital in their efforts to prevent this abuse, leads me to state that the evils and abuses so much and so reasonably complained of by the profession have been successfully met by the trustees of the New York Orthopædic Dispensary and Hospital. I deem their prompt action worthy of record—especially as you express the fear in your editorial comments that "it may take some time for a London example of this sort to be followed in New York."

The frequent application of persons at the New York Orthopædic Dispensary and Hospital for gratuitous relief who, while professing to be poor, were amply able to pay for professional service, led me to bring the question of the abuse of medical charity before the trustees of the institution at one of their stated meetings over a year ago. I asked that some measures be adopted by which the medical staff could discriminate against these impostors. Prior to the time when the matter was thus officially brought to the attention of the trustees it had been the custom of the medical staff to promptly dismiss all those who were discovered to be able to pay anything for private treatment. But the surgeon in charge felt that many were applying for and receiving treatment who had no right to expect gratuitous services; and it was impossible to know, without some system of investigation, who were the guilty ones.

In my communication to the trustees I cited many facts bearing upon the matter introduced, and named some striking illustrations of the manner in which the charitable objects of the institution had been abused. The subject was fully discussed. The result was that Howard Potter, Esq., president of the Board of Trustees, by an individual contribution, made the Orthopædic Dispensary a life member of the New York Association for Improving the Condition of the Poor. This latter society has an organized system of investigation, and its paid visitors were instructed to investigate any case referred by the Dispensary to them.

The following letter in blank was prepared by the medical staff of the Dispensary, and, having been approved by the trustees, was sent properly filled out, in every questionable case, to the Secretary of the Association for Improving the Condition of the Poor:

NEW YORK ORTHOPÆDIC DISPENSARY,
No. 126 East 59th Street.

New York, 188 .

To the New York Association for Improving the Condition of the Poor:

GENTLEMEN:

Mr.

residing at No.

and having

afflicted with

is an applicant for relief at the N. Y. Orthopædic Dispensary.

Will your Society kindly investigate the pecuniary condition of Mr. _____'s family, and report upon the following questions :

I. Is Mr. _____ a proper subject for Dispensary relief, and a deserving person ?

Answer :

II. Can the family afford to pay for private treatment ?

Answer :

III. The apparatus needed by the patient costs the Institution \$ _____. Can the family afford to pay this amount ?

Answer :

IV. Can they afford to pay *anything* for the apparatus ?

Answer :

V. Do the circumstances and condition of the family indicate that the patient would receive proper care at home ?

Answer :

Please fill in answers in above blank spaces, and return, as per inclosed addressed envelope.

Yours very respectfully,

NEWTON M. SHAFFER, M. D.,
Attending Surgeon in Charge.

In almost every instance a reply is received in twenty-four or thirty-six hours, and, as the patients all have chronic affections, and as they must all wait for the apparatus specially made for them, the delay results in no harm.

The reply, or a document of similar tenor, based upon a knowledge of the patient and his condition, is placed on file in a book kept for that purpose by the surgeon examining the patient, and is the *surgeon's voucher for the admission of the patient*. This book is placed before the trustees each month, and is duly inspected by them.

The scope of the inquiries, as noted, is a broad one. We not only decline to receive those who are able to pay, but also those *who can not receive proper care at home*. Experience has proved that the latter class abuse the dispensary privileges, and that efforts on their behalf result in failure. They are subjects for hospital care, and are placed, so far as our facilities permit, on the free beds in the wards of the institution. If proper care can be extended to the patient, apparatus is supplied, if necessary, and, after investigation, *free of cost*.

In addition to this system of investigation, the Orthopædic Dispensary has a paid system of out-door medical attendance, and last year alone 147 different patients were thus visited over 2,000 times.

The result is extremely satisfactory. We know, as medical attendants, that we are relieving the poor, and thus, in reality and not in semblance alone, make the institution a *true medical charity*.

I am yours truly,

NEWTON M. SHAFFER.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The seventy-ninth annual meeting was held at Albany, on Tuesday, Wednesday, and Thursday, February 5, 6, and 7, 1884, the President, Dr. ALEXANDER HUTCHINS, of Brooklyn, Kings County, in the chair.

Tuesday.—Morning Session.

The meeting was opened with prayer by the Rev. Dr. HENRY M. KING.

The President then read his INAUGURAL ADDRESS. He suggested that a change be made in details of meetings, so that the President could appoint the Business Committee, and, in conjunction with them, could arrange for the order in which papers should be presented before the commencement of the annual session. Also that queries should be propounded for discussion and prizes offered for the best solution of them. It was desirable that the Governor of the State should act from time to time in the interests of sanitation. Thirty-four orders of this nature had been issued by him already. A tribute was paid to the memory of the late Dr. Elisba Harris, the Secretary of the State Board of Health. The necessity of securing a fire-proof building for the preservation of the Library of the Surgeon-General's Office and the Army Medical Museum was urged. At the last meeting two permanent members had been elected in excess of the number authorized by the by-laws, but certificates of election had been withheld from them by the President. The society had suffered a great loss by the death of Dr. Jacob S. Mosher. It was desirable to establish a supervision of the hospital-training of nurses. The society would do well to make an appropriation of money to sustain the "Index Mediens." The course of certain county societies in admitting to active membership persons not resident in the county was condemned, and it was recommended that such persons be elected only to honorary membership. More caution was enjoined on censors in issuing certificates to poor students, and it was advised that cases be presented to this society before final action. Any scheme for fully endowed colleges to be independent of fees for tuition, however desirable it might seem, was doubtless chimerical. The legislation now proposed to be recommended he condemned as bad, in that it repeated the action of the colleges in granting diplomas, requiring the practitioner to undergo a second examination. All matters which interested the profession should either originate in this society or be referred to it. The by-laws of county societies should be in conformity with the laws of the State society. The laws of only sixteen counties had been so framed.

Three proposals affecting the code had been made at the last meeting. It was to be regretted that members felt bitterly in regard to the action of the society concerning the code. A majority of the five thousand regular physicians of the State, as canvassed, were opposed to the present policy of the society, while only about one fifth openly sustained it. The society had taken no measures to ascertain the sentiment of the majority of its members on this question. Conflict of opinions might be turned into harmonious action if time were given. He closed with a glowing tribute to the memory of the late Dr. J. Marion Sims.

COMMITTEES.—The President then appointed Dr. J. W. MOORE, of Cohoes, Dr. A. M. PHELPS, of Chateaugay, and Dr. J. H. HUNT, of Brooklyn, the *Business Committee*; and Dr. J. N. GOFF, of Cazenovia, Dr. JAMES CHAPMAN, of Medina, and Dr. P. R. H. SAWYER, of Belford, the *Committee on Credentials*.

After a recess of ten minutes, Dr. S. B. WARD, on behalf of the Committee of Arrangements, announced the hours for meeting, etc.

COMMUNICATIONS FROM COUNTY SOCIETIES.—On the call of counties, a report was read from the Albany County Society favoring the passage of the bill for the regulation of the profession now pending in the Legislature. On motion of Dr. H. C. PIERCE, of New York, the subject was made a special order for the Wednesday morning session.

The New York County Society presented a communication recommending an amendment in the by-laws, which was referred to the Committee on By-Laws. It also presented memorials of the late Dr. J. L. Banks and the late Dr. J. M. Sims.

The Ontario County Society presented a resolution opposing the new code, which, together with all matters relating to the code, was made the special order for the evening session.

The Washington County Society presented a resolution opposing the new code, and favoring its repeal by the State society as the necessary condition of securing representation in the American Medical Association, with the recommendation that any modification of the old code that was thought desirable be sought for in the American Medical Association.

THE ARMY MEDICAL MUSEUM AND THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.—Dr. A. JACOBI, of New York, offered a resolution, which was adopted, urging on Congress the importance of erecting a fire-proof building for the conservation of the national medical library and museum; also the completion of the catalogue, and the replenishing of the library. Ordered that a copy of the resolution be forwarded to Washington, to the chairman of the Committee on Public Grounds.

THE LATE DR. J. MARION SIMS.—Dr. S. O. VAN DER POEL, of New York, presented a eulogium of Dr. Sims, and solicited contributions to the fund now being raised to provide a suitable memorial.

Dr. W. C. WEY, of Elmira, moved that a committee of three be appointed on the President's address. Carried.

THE REPORT OF THE COMMITTEE ON PRIZE ESSAYS was read by Dr. T. F. ROCHESTER, of Buffalo.

The President announced the following COMMITTEE ON THE INAUGURAL ADDRESS: Dr. EDWIN HUTCHINSON, of Utica, Dr. G. J. FISHER, of Sing Sing, and Dr. DAVID WEBSTER, of New York.

Dr. PIFFARD proposed an AMENDMENT TO THE BY-LAWS to the effect that the Business Committee should not provide for the reading of papers by persons who were not members of the society when members had papers to present. He said he would not enforce the new rule till persons already appointed to read papers had been heard. Lost.

DOUBLE HARE-LIP.—A paper with this title was read by Dr. J. P. CREVELING, of Auburn, in which an account was given of a complicated and interesting case.

TWO UNUSUAL CASES IN OBSTETRICAL PRACTICE.—Dr. W. C. WEY, of Elmira, read a paper with this title, in which the first case related was one of concealed ante-partum hemorrhage with some uncommon features, the effusion being thought to have been situated wholly behind, so that the physical appearances of the uterine swelling were not such as are ordinarily met with. The second case was one that possessed many of the phenomena of rupture of the uterus, but in which, nevertheless, the author did not feel warranted in a positive diagnosis.

The paper was discussed by Dr. F. A. CASTLE, of New York. THE SUMMER DIARRHŒA OF INFANTS.—Dr. DAVID LITTLE, of Rochester, read an interesting paper in which he dwelt particularly on the etiology of the affection, more especially with regard to errors of diet. In the author's experience, over-feeding and deprivation of water were answerable for a great proportion of infantile deaths from summer diarrhœa. In an institution of which he had charge, and in which the mortality from diarrhœal diseases had previously been large during the summer, the following plan had been followed the past season: Orders were given that the infants should be fed only once in three hours, but that they should be allowed plenty of water. Instead of once in three hours, they were fed only three times a day, the matron having misunderstood his directions (an error that was not discovered until the end of the summer), and not a single death took place, and there were but two or three cases of severe diarrhœa.

The paper was discussed by Dr. G. H. WOODWARD, of Big Flats, Dr. F. A. CASTLE, of New York, and Dr. W. S. ELY, of Rochester.

CANALIZATION AS APPLIED TO AMPUTATION OF THE FEMALE BREAST, TO INSURE PRIMARY UNION UNDER ONE DRESSING.—This was the title of a paper by Dr. A. G. GERSTER, of New York, which will be published in full hereafter.

AN OPERATION FOR CORRECTING DEFORMITY OF THE AURICLE.—Dr. O. D. POMEROY, of New York, read a paper describing an operation for deformity of the auricle consequent upon arrest of development, and remarked that, in his experience, such deformities were not usually accompanied by arrested development in other parts of the body.

Dr. ARTHUR MATTHEWSON, of Brooklyn, related a case bearing upon some points that Dr. Pomeroy had touched upon.

Dr. JACOBI explained the fact that these malformations of the ear were not usually associated with other results of arrest of development by the early period of fetal life at which the auricle was formed.

POISONING BY POTASSIUM CHLORATE was the title of the next paper, by Dr. GEORGE B. FOWLER, of New York, relating a case in which a patient who took six hundred grains in a day passed urine in small quantity and of a sp. gr. of 1.055. Stress was laid on the irritating effects of the salt, and on the necessity of caution in its use.

Dr. JACOBI, Dr. CASTLE, Dr. DANIEL LEWIS, of New York, and Dr. S. SHERWELL, of Brooklyn, took part in the discussion.

Tuesday.—Afternoon Session.

Dr. JOHN G. CURTIS, of New York, presented a REPORT FROM THE COMMITTEE ON EXPERIMENTAL MEDICINE, urging the importance of experiments on living animals. The report was adopted.

THE COMMITTEE ON NOMINATIONS was announced as follows: From the Society at Large, E. H. PARKER, of Poughkeepsie; First Senatorial District, LAURENCE JOHNSON; second district GEORGE C. SMITH; third district, F. C. CURTIS; fourth district L. E. FELTON; fifth district, H. G. DU BOIS; sixth district, W. W. CRANDALL; seventh district, DARWIN COLVIN; eighth district, JOHN O. ROE.

THE PROPOSED STATE MEDICAL FACULTY.—Dr. W. C. WEY, of Elmira, offered the following:

Resolved, That "A Bill to establish the Medical Faculty of the University of New York" be and hereby is referred to the Committee on Legislation, with instructions to report to the society to-morrow, Wednesday, morning, when the order for the report of said committee is reached. Seconded by Dr. Agnew.

The Business Committee reported obituary notices of Dr. James Lenox Banks, by Dr. F. A. Burrall; of Dr. J. Marion Sims, by Dr. Wesley M. Carpenter; and of Dr. James Rushmore Wood, by Dr. Frederic S. Dennis. They were referred to the Publishing Committee.

Dr. POWELL, of Toronto, was introduced as an invited guest, and made a short address, extolling the merits of the Dominion Medical Practice Act.

Dr. EDWIN HUTCHINSON read a REPORT FROM THE COMMITTEE ON THE PRESIDENT'S ADDRESS. It particularly commended the first suggestion, and offered the following resolutions:

Resolved, That hereafter the President shall appoint the Business Committee in advance of the annual meeting and at as early a period as practicable, for the purpose of securing scientific work for the next annual session.

Resolved, That the President shall hereafter be a member of the Business Committee *ex officio*.

Resolved, That, should a vacancy occur in any committee of this society, the President is hereby authorized to fill such vacancy.

Dr. W. M. CARPENTER, of New-York, moved that the reso-

lutions be referred to the Committee on By-Laws, with the recommendation that they be adopted, and reported back to the society for action. Carried.

An obituary notice of Dr. Morgan Snyder, of Fort Plain, by Dr. Alexander Ayres, was read by title.

A resolution was offered that there should be a Committee on Necrology, consisting of three members. Referred to the Committee on By-Laws.

THE ESTABLISHMENT OF HOSPITALS IN SMALL CITIES.—Dr. E. H. PARKER, of Poughkeepsie, read a paper in which he described the organization and management of a very successful hospital in that city.

A NEW METHOD OF PARTIAL EXTIRPATION OF THE CANCEROUS UTERUS.—Dr. ELY VAN DE WARKER, of Syracuse, read a paper reviewing the various methods of operation, and described his own plan of removing the greater part of the thickness of the organ in the form of a slough produced by the action of a strong solution of chloride of zinc. The results were better, he thought, than those that followed the use of the knife. The late Dr. Sims had taught us how to apply caustics with precision.

THE VALUE OF ELECTRICITY IN DIAGNOSIS.—Dr. L. E. FETTON, of Potsdam, read a paper in which he described the details of the proper use of electricity for diagnostic purposes.

CONGENITAL LIPOMA.—Dr. JACOBI alluded to the rarity of congenital lipoma in general, and to its comparative rarity in various parts of the body. He related cases that he had met with, and spoke of the complications that had been found.

ORBITAL CELLULITIS.—This was the title of a paper by Dr. THOMAS R. POOLEY, of New York, which will be published in full hereafter.

A PLEA FOR THE PHARMACOPEIA was the title of a paper by Dr. LAURENCE JOHNSON, of New York, in which he urged general adherence to the use of pharmacopoeial preparations, and deprecated the tendency to use compounds devised by pharmacists.

The paper was discussed by Dr. JACOBI, Dr. W. F. MITTENDORF, and Dr. CASTLE, of New York.

OPERATIONS FOR CLOSURE OF THE HARD AND SOFT PALATE.—Dr. A. VANDERVEER, of Albany, read a paper embodying the views to which his experience had led him in regard to operations for these deformities. He had had the best results with Ferguson's operation, and urged its performance in infancy. In the case of adults an operation was seldom followed by material improvement of the voice, but, even with them, the regurgitation of fluids through the nostrils was prevented more certainly than by the use of obturators. Free dissection was the important point in the operation.

Dr. GEESTER and Dr. POWELL, of Toronto (present by invitation), took part in the discussion.

The following papers were read by title: DYSENTERY; ITS TREATMENT BY DILATATION, by Dr. W. W. POTTER, of Buffalo; TWO CASES OF RUPTURE OF THE HEART, by Dr. F. H. SQUIRE, of Elmira; A BIOGRAPHICAL SKETCH OF THE LATE JAMES RUSMORE WOOD, M.D., LL.D., by Dr. FREDERIO S. DENNIS, of New York; A BIOGRAPHICAL SKETCH OF THE LATE DR. G. W. BRADFORD, by Dr. C. GREEN, of Housier; A BIOGRAPHICAL SKETCH OF THE LATE DR. J. FOSTER JENKINS, by Dr. G. J. FISHER, of Sing Sing; THE MEDICAL SOCIETY OF THE STATE OF NEW YORK IN ITS RELATION TO SANITARY SCIENCE AND THE PUBLIC HEALTH, by the late Dr. ELISHA HARRIS, of Albany; A BIOGRAPHICAL SKETCH OF THE LATE DR. J. S. BAILEY, by Dr. F. C. CUESTIS, of Albany.

A CASE OF SYMPATHETIC SEROUS IRITIS, WITH REMARKS.—Dr. DAVID WEBSTER read a paper with this title, which was discussed by Dr. MITTENDORF.

HORSE-HAIR DRAINAGE.—Dr. DANIEL LEWIS, of New York,

read a paper in which he expressed himself as convinced of the excellent qualities of horse-hair for sutures.

Dr. E. M. MOORE, of Rochester, coincided with the views put forward by Dr. Lewis.

The following papers were read by title: SPONTANEOUS PYÆMIA, by Dr. J. B. TODD, of Parish; THE CARE AND PRESERVATION OF MEDICAL PAMPHLETS, by Dr. G. J. FISHER, of Sing Sing; STRANGULATED HERNIA, WITH A REPORT OF FIVE CASES OF OPERATION, by Dr. J. CHAPMAN, of Medina; NOTES ON THE TREATMENT OF DERANGEMENTS OF THE DIGESTIVE ORGANS, by Dr. F. A. CASTLE, of New York; HAY FEVER, by Dr. J. O. ROE, of Rochester; PRIMARY DRAINAGE AND SECONDARY SUTURE, by Dr. GEORGE B. FOWLER, of New York.

HOUSE SANITATION AS IT IS, AND AS IT SHOULD BE.—Dr. W. F. SHEEHAN, of Rochester, read a paper with this title. It was discussed by Dr. A. N. BELL, of Brooklyn.

THE FUNDAMENTAL PRINCIPLES OF MECHANICAL THERAPY IN HIP DISEASE was the title of a paper read by Dr. MILTON JOSEPH ROBERTS, of New York, who treated the subject from the physiological standpoint. The paper was discussed by Dr. FOWLER.

SYNOVITIS OF THE KNEE JOINT.—Dr. A. M. PHELPS, of Chateaugay, read a paper on this subject, and showed a number of mechanical appliances of his own devising.

MORBID SOMNOLENCE was the title of a paper read by Dr. C. L. DANA, of New York.

Tuesday.—Evening Session.

THE CODE OF ETHICS.—Dr. H. G. PIFFARD, of New York, moved that the communication from Ontario, which was laid on the table in the morning, be now taken from the table and read. Carried. The communication was then read by the Secretary, being an appeal for the restoration of the National Code.

Dr. Piffard moved that the communication be received and placed on file. Carried.

Dr. Piffard offered the following: *Resolved*, That the Secretary be instructed to inform the Medical Society of Ontario County that any by-law adopted by that society which was not approved by this society would have no legal force.

Dr. A. G. CRITTENDEN, of Clifton Springs, explained that the resolutions adopted by Ontario County were not of the nature of a by-law, but were a remonstrance.

Dr. Piffard's resolution was carried.

Dr. F. J. BAKER, of Lockport, presented a communication from Niagara County similar to that from Ontario County. On motion, it was received and ordered to be entered upon the minutes.

After a pause, Dr. F. R. STURGIS, of New York, inquired if there was any special business before the house. The President replied that there was a special topic designated for this evening. After further silence, Dr. PIFFARD moved that, if there was no business of the character which had been made the special order, the meeting now proceed to the reading of papers under direction of the Business Committee.

At Dr. E. M. MOORE's request, the motion was withdrawn, and the resolutions offered last year by Dr. DIDAMA were read by the Secretary.

Dr. MOORE moved the adoption of these resolutions.

[The purport of these resolutions was to repeal the new code and restore the old code. The full text of the resolutions was given in our issue of February 17, 1883, p. 191.]

Dr. T. F. ROCHESTER, of Buffalo, seconded the motion, and said that Dr. Didama would probably soon be present, and would desire to speak in favor of his own resolution. Remonstrances against the new code from county societies, such as had been received here to-night, showed the feeling of the majority

of the profession in the State, and should not be received with jeers and tabled. The alteration of the by-laws in 1882 was made when the profession were not prepared for it, and when it was not expected that the topic would be definitively settled. The large attendance now present was for the purpose of saving the society from the disintegration which awaited it if the new code were to stand.

Dr. H. D. DIDAMA, of Syracuse, then came in, and was given the floor. He wished to make a plea in the interest of harmony and fairness, and he had reduced it to writing. It could be shown in their own handwriting that less than one third of the members of the State society, and less than one fifth of the profession in the State, favored the new code. And the profession in the State and out of the State believed that the old code had been unjustly snatched away, and that the new code had been unfairly established.

Dr. D. B. SR. JOHN ROOSA, of New York: Two new arguments have been presented to-night by those who favor the resolutions of Dr. Didama. One argument is based on a threat that under certain circumstances a new society will be formed. We are told that, unless we yield to the minority, they will go out from us and form an irregular society. They come to us with an olive-branch in one hand and a hatchet in the other. The minority are for harmony, provided the majority do exactly as they say. The other argument, the notion that the adherents to the old code are in a majority in the State, is as delusive as the similar view as to their numbers in New York City has been proved to be. Other States will soon follow in the line after New York, and leave the American Medical Association.

Dr. A. JACOB, of New York, moved the previous question. This was withdrawn to allow Dr. E. M. Moore, of Rochester, the privilege of the floor.

Dr. MOORE said that he was detained as a witness last year, and had had no opportunity to express himself on this question. After reading a long editorial article from the "Journal of the American Medical Association," he said that when we severed our relations with the association we violated the principles of comity and courtesy. In 1882 he urged a reference of the code question to the American Medical Association, in order to preserve our harmonious relations with all other societies.

Dr. JACOB again moved the previous question, and the yeas and nays were called, with the following result, the President having ruled that a two-thirds affirmative vote was required for the passage of the resolutions:

AYES.—E. Ames, J. N. Arnold, Alex. Ayres, J. H. Abell, J. G. Adams, C. S. Allen, Geo. Abbott, J. C. Boyd, R. B. Bon-tecoo, F. J. Baker, Guy C. Bailey, M. H. Burton, C. G. Bacon, Wm. C. Bailly, Wilbur H. Booth, J. E. Beard, J. Chapman, A. G. Crittenden, D. Colvin, Wm. Chase, John Cronyn, J. M. Crawe, A. Churchill, A. M. Campbell, W. S. Cooper, J. R. Cotes, J. E. Casey, G. W. Cooke, I. G. Collins, A. J. Dallas, L. C. Dodge, H. D. Didama, J. Davidson, H. G. Du Bois, J. C. Dalton, H. J. Dean, J. C. Edson, J. W. Eddy, G. W. Earle, E. F. Edgerly, E. D. Ferguson, Wm. Fitch, Austin Flint, A. Flint, Jr., J. W. Grosvenor, Wm. Gillis, C. S. Grant, J. C. Green, F. S. Green, C. Green, D. Guernsey, J. W. S. Gouley, Alex. Hutchins, A. D. Head, J. H. Hunt, E. A. Houghton, J. H. Hinton, Fred. Hyde, B. L. Hovey, S. T. Hubbard, N. C. Huested, C. M. Johnson, T. M. Johnson, H. O. Jewett, A. C. Jackson, C. Jewett, Frank Kenyon, Henry Lapp, W. E. Lauderdale, Jr., E. M. Lyon, D. N. Lee, J. K. Loeming, E. McKenzie, J. W. Moore, E. M. Moore, Robt. Newman, C. E. Nichols, Israel Parsons, T. E. Parkman, C. G. Pomeroy, H. C. Palmer, T. B. Reynolds, Wm. Ring, T. F. Rochester, J. P. Sharer, T. D. Stony, T. H. Squire, Z. Rousseau, A. W. Suiter, S. Sherwell, G. C. Smith, B. G. Streeter, E. R. Squibb, B. A. Segur, W. P. Seymour, H. Slack, Conant Sawyer,

J. B. Todd, M. W. Townsend, R. Thomson, E. Vanderwarker, C. S. Wood, R. H. Ward, Thos. Wilson, R. M. Wykoff.—*Total, 105.*

NAYS.—J. Q. Adams, W. T. Alexander, C. R. Agnew, E. Allison, M. J. Baker, E. H. Bridges, W. R. Birdsall, F. D. Beebe, A. J. Browne, E. Beach, N. H. Ballou, A. C. Benedict, W. H. Bailey, C. C. Bartholomew, W. M. Carpenter, H. S. Crandall, F. A. Castle, W. W. Crandall, W. B. Chase, J. P. Creveling, J. R. Cooper, C. Carey, W. H. Craig, F. C. Curtis, D. F. Dayton, C. L. Dana, F. S. Drake, T. A. Emmet, W. S. Ely, R. Fraser, R. M. Fuller, L. E. Felton, G. R. Fowler, F. P. Foster, G. J. Fisher, J. D. Featherstonhaugh, S. H. Freeman, G. H. Fox, A. G. Gerster, I. N. Goff, V. P. Gibney, P. R. Furbeck, Emil Gruening, J. W. Howe, C. R. Heaton, A. Hadden, H. R. Hopkins, T. Helme, James C. Hutchison, L. Howe, Edwin Hutchinson, B. L. Holt, E. Herrick, L. Johnson, W. H. Johnson, H. Jewett, William Hailes, A. Jacobi, S. E. Jones, A. M. Jacobus, D. Lewis, F. S. Low, A. L. Loomis, C. M. Leffer, D. Little, T. Lothrop, A. V. B. Lockrow, J. Lewi, A. Mandeville, H. March, G. G. Munro, A. Mathewson, J. Moffat, L. McLean, W. F. Mitten-dorf, B. A. Mynderse, H. H. Nye, C. A. Nicholson, J. D. Potter, T. R. Pooley, W. W. Potter, O. D. Pomeroy, A. M. Phelps, E. L. Partridge, R. W. Pease, M. Perkins, J. S. Prout, C. H. Porter, H. G. Piffard, E. H. Parker, P. V. S. Prun, J. O. Roe, D. B. St. J. Roosa, B. G. Senten, G. Seymour, A. S. Seebor, H. G. P. Spencer, F. R. Sturgis, W. Manlius Smith, F. H. Stewart, J. C. Shaw, C. L. Stiles, E. V. Stoddard, P. R. H. Sawyer, B. F. Sherman, N. L. Snow, N. F. Sheehan, G. F. Shradly, William Taylor, R. K. Tuthill, S. O. Van der Poel, E. Van Slyke, A. Vanderveer, S. B. Ward, W. Woodward, J. H. Wheeler, C. E. Willard, H. R. Winter, J. S. Warren, F. M. Weld, D. Webster, W. C. Wey, C. E. Whitbeck, W. G. Wylie.—*Total, 124.*

The resolutions were therefore declared lost.

THE "DECLARATORY RESOLUTION."—When the vote had been declared, Dr. ROOSA said: During the progress of this discussion it has been said that there were a large number of men who voted for the old code who would much rather have voted for the code I offered three years ago. I wish to redeem the pledge I then made, and give them the opportunity. If there is any feeling in the minority that they prefer such a resolution as this to the new code which has remained the law of the State society, I am glad to join them; but, if there is no such desire on the part of this minority, I have no wish to ask my fellows to reopen this question; and, with this explanation, I will second the motion of any member of the minority who prefers this resolution, and attempt to get a tentative vote. I claim your indulgence, for I am under an obligation to renew this motion. I consider that I have complied with this obligation.

Dr. JACOB moved that Dr. Roosa's resolution be now put.

By request, Dr. ROOSA read his resolution. [See the "New York Medical Journal" for February 17, 1883, p. 189.] Dr. Roosa added that the second clause of the resolution was withdrawn, as it had been shown to be unconstitutional.

Dr. JACOB moved that this resolution take the place of the new code.

Dr. C. R. AGNEW, of New York, advocated Dr. Jacobi's motion.

After some discursive talk by various members, Dr. JACOB withdrew his motion.

Wednesday.—Morning Session.

The session was opened with prayer by the Rev. WALTER D. NICHOLAS.

After the reading of the minutes, Dr. N. S. BABBITT, of North Adams, Mass., was introduced, and made a brief address.

THE TREASURER'S REPORT.—Dr. CHARLES H. PORTER, of Al-

bany, the Treasurer, read his annual report. The receipts were \$3,179.17, the expenses \$2,272.11, and the balance in the treasury is \$1,162.92, against \$555.90 last year. The report was referred to an auditing committee consisting of Dr. Jacobi and Dr. Bull.

THE PRIZE FUND.—Dr. PORTER read the report of the Committee on the Merritt H. Cash Prize Fund; also that of the committee appointed to secure new quarters for the society, to the effect that there was a prospect of securing better quarters next year.

THE VOLUMES OF TRANSACTIONS.—Dr. F. C. CURTIS, of Albany, read the report of the Committee on Publication. There was but little demand for the volumes that were out of print, and the committee recommended that they be not reprinted. Adopted, and the committee discharged.

Dr. W. C. WEX read the report of the Committee on By-Laws, and presented resolutions, which were adopted. The resolutions approved the by-laws of the following county societies: Saratoga, Ulster, Yates, Tioga, Columbia, Cayuga, Rensselaer, Oneida, Clinton, Putnam, St. Lawrence, Washington, Schoenectady, Tompkins, and Essex. Amendments to the by-laws of the county societies of New York and Albany were approved.

THE PRIZE ESSAYS.—Dr. W. S. ELY called attention to the fact that the report of the Committee on Prize Essays, presented yesterday, was signed by Dr. Moore, who was not a member of that committee, and lacked the signature of Dr. W. W. Potter, one of the members of the committee. The report was referred back to the committee.

Dr. JACOBI presented the REPORT OF THE COMMITTEE ON THE PREVENTION OF CRUELTY TO CHILDREN, embodying a resolution that this society appoint a committee to co-operate with the Society for the Prevention of Cruelty to Children.

Dr. PIFFARD offered a resolution that the Secretary have printed a sufficient number of copies of the proceedings of this society to provide every member of the county societies affiliated with it with a copy. Carried.

Dr. E. W. STODDARD, of Rochester, read a REPORT OF THE COMMITTEE ON HYGIENE, which was accepted.

THE STATE EXAMINING BOARD.—The special order was then taken up, namely, the acts to establish a State examining board, now before the Legislature.

Dr. F. R. STURGIS, of New York, read the report of the Committee on Legislation, and presented the bill now pending in the Assembly (No. 120). The committee further reported that the Attorney-General of the State had taken action during the year against two medical colleges incorporated under the act of 1818, and had closed the colleges, the court holding that that act was not applicable to the incorporation of such colleges.

Dr. PIFFARD moved that the report be received.

Dr. H. R. HOPKINS, of Buffalo, offered a resolution favoring the bill recommended by the committee.

Dr. AGNEW moved to lay the report of the committee on the table.

Dr. ROOSA rose to the point of order that the motion to table was made too late. The point of order was sustained.

Dr. PIFFARD's motion was carried.

Dr. AGNEW moved to refer the matter back to the committee, with instructions to report another bill (known as the "Medical College Bill").

Dr. ROOSA thought it would be putting a slight on the committee to require them to report a bill they did not approve of.

Dr. PIFFARD raised the point of order that all matters must be referred to the committee, "which shall report," etc. (reading from the by-laws).

After discussion, Dr. ROOSA moved an amendment that the committee should not recommend the bill.

Dr. PIFFARD raised the point of order that it was improper to instruct the committee how they should report.

Dr. AGNEW's motion was carried, and the committee handed in a copy of the bill, which was received and entered on the minutes. The chairman of the committee stated that the committee disapproved of the bill.

Dr. HOPKINS offered a resolution that the report of the committee be accepted, and that the committee be instructed to press this bill before the Legislature. He made an address in support of his resolution.

Dr. PIFFARD moved that the resolution be amended so as to designate the bill favorably reported by the committee as the one indorsed by this society, which amendment was accepted.

Dr. A. L. LOOMIS, of New York, made an address favoring the last bill reported. He thought the profession should be united before presenting any bill to the Legislature. The first point he noted was in the first section of the two acts—the manner in which the board was to be composed. The great point of difference between the bills was in the powers of the examining board; the one made them supervisory, the other absolute. In the bill he favored there was a provision for suppressing bogus colleges without legislation. It also guaranteed a high standard of attainments in graduates. In the other bill, it was proposed to give absolute power to an irresponsible board, the composition and character of which could not be foreseen. Again, England had tried taking examining boards from a non-teaching body, and had found it a failure. "Just so soon," he continued, "as you put the appointing power into the hands of a power that is not a professional power, you are in danger." (Applause.)

The next question was as to the compensation of these examiners. A good man could not be had for the sum of \$700 a year, which was about what members of this board would average. It would take two months to examine three hundred men. The colleges of the State are already doing good work in examinations. He objected to this bill also because it gave the power of adding to the curriculum of the colleges.

Dr. HOPKINS having raised the point of order that no such provision was contained in the bill, Dr. Loomis called attention to such a provision in section 4: "And such other branches," etc. As for the argument that the profession was overcrowded, "Gentlemen, do you propose to establish a trades-union?" (Applause.) There should be a union between the profession and the college.

Dr. ROOSA said he had had great opportunities to know something of medical colleges, and he would say that the medical colleges of the State reflected the greatest honor upon our profession. Most of the advances of the past twenty years had come through the medical colleges. He thought the real object of the second bill was to defeat any bill. He had had assurances that, if this society should agree on any bill, there was a good prospect of its being presented to the Governor. It was stated before the Legislature that the bill had never been discussed before this society.

Dr. AGNEW and Dr. PIFFARD both corrected this statement.

Dr. ROOSA also insisted that this society had, on previous occasions, indicated preferences for a proper bill. Any bill containing provisions such as those in sections 7 and 8 was a gigantic farce. He objected to any bill that proposes to take the examining board down to New York on a tea-drinking party with the faculties there—that was unduly influencing the jury. He was willing to agree to any bill that did not enslave the measure. The license to practice should be obtained from the State.

Dr. PIFFARD quoted at length from an article by himself, and made an address in favor of the second bill reported by the committee. He proceeded with an elaborate historical sketch of the movement under discussion. He specially opposed the formation of boards embodying separate sects. He repudiated the imputation that the members of this society practiced any "system" of medicine. He criticised various details of the committee's bill—such as the prohibition of graduates affixing the letters M. D. to their names unless licensed, which would make it a misdemeanor for the most eminent physician in Philadelphia (mentioning Dr. Gross) to register his name and title at any hotel in New York where he might be staying; the requirement that copies of all diplomas should be kept in the county clerk's office; the stringent language of section 12, which would interdict the practice of dentistry by any but a registered physician, etc.—and expressed surprise that such a bill should have been drawn by any person professing to be a lawyer. On the other hand, he pointed out several commendable features of the second bill, and concluded with the recommendation that both bills should be referred to some committee, for the purpose of harmonizing them and correcting objectionable features.

Dr. JACOBI thought that neither bill was perfect, and both might well be amended. We needed a bill that was both effective and constitutional. The interest of the public in this matter was much larger than that of the colleges, and, if we did not soon prepare a bill, the Legislature would pass one of its own accord. He moved that the matter be taken up again at the afternoon session, with the determination to come to a final vote before adjournment.

Dr. AGNEW offered a substitute to the effect that the report be recommended to the committee, with power, and that five additional members be added to the committee. An amendment was carried stating the hour as three o'clock, and Dr. Jacobi's motion was carried.

Wednesday.—Afternoon Session.

ADJOURNED DISCUSSION ON THE EXAMINING-BOARD BILLS.—Dr. J. W. HOWE, of New York, remarked that the Society of the County of New York had declined to not approve the committee's bill, for the reason that it had not been carefully prepared and considered. We should consult the teachers before we took action on any bill. The proposed board was objectionable because it excluded teachers. This society could exercise a better supervision than any board. He offered this amendment: that a committee of this society be appointed to draft a plan for an examining commission to attend the college examinations in behalf of the society.

Dr. J. C. DALTON, of New York, seconded the amendment and supported the measure, because this can not be properly effected by legislation, and because the control ought to be kept within this society. These bills would work harm: one bill disconnected the degree of M. D. from the right to practice. This would not purify the profession. If we took away from the degree of M. D. the right to practice, we should simply relieve the colleges of their present responsibility. Such a board as was proposed could not be in session one day without showing that the eclectic held the balance of power. A law once passed was hard to amend, and no law ever operated quite according to previous expectation.

After a running discussion, both the original resolution and Dr. Howe's amendment were laid on the table.

Dr. HOPKINS offered a resolution declaring that the society was in sympathy with the effort to establish a State board of examiners.

Dr. VAN DER POEL moved that the matter be referred to a committee consisting of the present Committee on Legislation

(Dr. Sturgis and Dr. Vanderveer) and Dr. A. L. Loomis, Dr. J. G. Curtis, Dr. Austin Flint, Jr., Dr. Maurice Perkins, and Dr. E. M. Moore, with power.

Dr. HOPKINS opposed the amendment on the ground that it took the matter away from the regular Committee on Legislation.

Dr. JACOBI wished to hear from the gentlemen from the interior of the State, who had hitherto refrained from announcing their opinions.

Dr. GEORGE C. MOORE, of Oneida, responded that, in his opinion, it was all wrong to push a measure of this kind through in so short a time, without consulting all the members of the fraternity throughout the State. The committee should not have full power to act, but should simply consider measures and report.

Dr. PIFFARD ordered an amendment to Dr. Hopkins's resolution, that the matter be referred to a committee, consisting of the Committee on Legislation, and Dr. Loomis, Dr. Vanderveer, and Dr. J. G. Curtis.

Dr. LOOMIS favored an examining board, and promised to have a bill here next year which every member would approve of.

Dr. WEY favored deferring this business for one year.

Dr. ROCHESTER favored a State board, but thought we should not act in a hurry.

Dr. PIFFARD accepted a suggestion that the committee communicate with the county societies, as an amendment to his motion. The motion, as amended, was carried. The President appointed, as a committee to co-operate with the Society for the Prevention of Cruelty to Children, Dr. Jacobi, Dr. Van der Poel, and Dr. Loomis.

Dr. ROCHESTER, from the COMMITTEE ON PRIZE ESSAYS, explained that he had sent the report of the committee to Dr. W. S. Ely. He had supposed that Dr. Moore was a member of the committee, and so had Dr. Moore himself. He then presented as the majority report of the committee, the same report read yesterday.

Dr. POTTER read a minority report, signed by himself, characterizing the essay on "Tubercles of the Breast" as unworthy of the prize, for the reason that it was not largely original, but consisted almost entirely of extracts from other authors, which work did not answer the requirements.

Dr. VAN DER POEL moved that the minority report be adopted. Carried.

The Business Committee presented an obituary of Dr. J. G. Snell, of Palatine Bridge.

The Committee on Hygiene presented a report.

Dr. WEY reported from the Committee on By-Laws, favoring the approval of certain amendments to the by-laws of the Albany County Society; opposing the creation of a committee on necrology; and presenting a resolution that the Treasurer and Secretary be authorized to act as a temporary committee on credentials at the annual meetings until the organization of the meeting. All the recommendations were adopted.

Wednesday.—Evening Session.

THE PRESIDENT'S ANNUAL ADDRESS was delivered. [See p. 141.]

Thursday.—Morning Session.

THE MANAGEMENT OF FACE PRESENTATION.—Dr. E. L. PARTRIDGE, of New York, read a paper on this subject.

ARSENIC AND DIGITALIS IN PHTHISIS.—Dr. JACOBI read a paper recounting his experience in the use of arsenic in certain forms of phthisis. In many cases he had found the drug of signal service, but he had not found it useful in cases that had advanced to the hectic stage.

The second part of the paper dealt with the use of digitalis in forms of pulmonary and other diseases associated with defective cardiac power. The drug was a direct tonic to the heart in all conditions of the organ save that of acute inflammation.

Dr. F. R. S. DRAKE, of New York, had seen benefit result from the use of arsenic in certain cases of phthisis with hectic. In regard to digitalis in pulmonary affections, it was the custom at Bellevue Hospital to give the drug in most cases of pneumonia, particularly of the alcoholic variety.

THE PUBLICATION OF THE PROCEEDINGS.—Dr. W. M. CARPENTER moved that the society have a sufficient number of copies of the proceedings printed, and mailed from the publication office direct to the members of the various county societies, instead of mailing them to the secretaries of the county societies, as proposed by Dr. Piffard in his motion. Carried.

NOMINATIONS FOR THE ENSUING YEAR.—The report of the Committee on Nominations was made and adopted as follows: *President*, B. F. SHERMAN, Ogdensburg; *Vice-President*, P. R. H. SAWYER, Bedford; *Secretary*, W. M. SMITH, Syracuse; *Treasurer*, C. H. PORTER, Albany; *Censors*: (Southern District) F. A. CASTLE, G. H. FOX, DAVID WEBSTER, New York; (Eastern District) E. D. FERGUSON, Troy, N. L. SNOW, Albany, Le Roy McLEAN, Troy; (Middle District) ALONZO CHURCHILL, Utica, J. K. CHAMBERLAIN, Utica, ROBERT FRAZER, Camden; (Western District) T. F. ROCHESTER, Buffalo, B. L. HOVEY, THEODORE DIMON, Auburn; (Medical Department of Syracuse University) J. P. CREVELING, Auburn; *Committee of Arrangements*, S. B. WARD, Albany, W. S. ELY, Rochester, E. L. PARTRIDGE, New York; *Committee on By-Laws*, W. C. WEY, Elmira, ALEXANDER HUTCHINS, Brooklyn, W. M. SMITH, Syracuse; *Committee on Hygiene*, E. V. STODDARD, Rochester, CALEB GREEN, Homer, EDWIN HUTCHINSON, Utica, W. H. BAILEY, Albany, A. N. BELL, Brooklyn, G. J. FISHER, Sing Sing, W. T. SHEEHAN, Rochester; *Committee on Medical Ethics*, A. JACOBI, New York, A. MATTHEWSON, Brooklyn, J. W. WHITEBECK, Rochester; *Committee on Prize Essays*, W. W. POTTER, Buffalo, A. HUTCHINS, Brooklyn, W. S. ELY, Rochester; *Committee on Publication*, W. M. SMITH, Syracuse, C. H. PORTER, Albany, H. D. DIDAMA, Syracuse; *Permanent Members*: (First District) D. LEWIS, A. V. B. LOCKBROW, V. P. GIBNEY, A. McL. HAMILTON, New York, S. SHERWELL, Brooklyn; (Second District) A. HUBNE, Rondout, J. Q. ADAMS, Carmel; (Third District) M. L. BATES, Canaan Four Corners, S. S. CARTWRIGHT, Roxbury; (Fourth District) L. C. DODGE, Rouse's Point, J. E. BURDICK, Johnstown; (Fifth District) H. W. CARPENTER, Oneida; (Sixth District) M. J. BAKER, Hornellsville, M. D. SPENCER, Guilford; (Seventh District) ALFRED MERCER, Syracuse; (Eighth District) C. S. STARR, Rochester, M. S. KITTINGER, Lockport; *Honorary Members*, W. G. BRONSON, Connecticut; *Delegates to the International Medical Congress*, S. O. VAN DER POEL, New York, A. M. PHELPS, Chateaugay, J. O. ROE, Rochester, A. VANDERVEER, Albany, J. P. CREVELING, Auburn, W. H. BAILEY, Albany, A. HUTCHINS, Brooklyn, A. JACOBI, G. F. SHRADE, New York; *Delegates to the Massachusetts Medical Society*, G. C. MONROE, Creary's Mills, G. G. HOPKINS, Brooklyn, H. MARON, Albany; *Delegates to the Connecticut Medical Society*, M. L. BATES, Canaan Four Corners, S. H. FREEMAN, Albany; *Delegates to the Canadian Medical Association*, L. E. FELTON, Potsdam, C. M. WILSON, Gouverneur, C. SAWYER, Au Sable Forks, F. C. CURTIS, Albany, D. V. O'LEARY, Albany; *Delegates to the British Medical Association*, F. BARKER, New York, H. JEWETT, Canandaigua; *Delegates to the Ontario Medical Association*, H. R. HOPKINS, L. HOWE, Buffalo; *Delegates to the Pennsylvania Medical Society*, C. L. STILES, Owego; *Delegates to the Vermont Medical Society*, J. L. LITTLE, New York, J. LEWIS, Albany.

Dr. WARD moved that the thanks of the society be extended

to the New York State Agricultural Society for the use of this room, etc. Carried.

Dr. WM. M. SMITH moved that all papers on the roll, and not read, be read by title and referred to the Committee on Publication. Carried.

Dr. CARPENTER moved a vote of thanks to the President of the society. Carried.

The PRESIDENT responded.

Dr. SHERMAN moved a vote of thanks to the Committee of Arrangements. Carried.

Dr. JACOBI moved a vote of thanks to the Business Committee. Carried.

The meeting then adjourned.

INVITED GUESTS.—During the sessions the following-named physicians were invited to take part in the proceedings as guests: Dr. W. S. TREINAIN, U. S. Army, of Buffalo; Dr. T. P. BAILEY, of Albany; Dr. J. B. STONEHOUSE, of Albany; Dr. F. A. ANDERSON, of Messina; Dr. M. S. KITTINGER, of Lockport; Dr. PETER FALING, of Gosport; Dr. W. W. SEYMOUR, of Troy; Dr. S. S. WALLIAN, of Bloomingdale; Dr. G. P. CLARK, of Syracuse; Dr. ALFRED MERCER, of Syracuse; Dr. S. R. MORROW, of Albany; Dr. M. D. MANN, of Buffalo; Dr. L. A. STIMSON, of New York; Dr. J. S. COOLEY, of Luzerne; Dr. LORENZO HALE, of Albany; Dr. S. G. DELAMATER, of Schenectady; Dr. W. S. LAYMAN, of Schoharie; Dr. H. F. KINGSLEY, of Schoharie; Dr. J. C. HANNAN; Dr. J. A. HALL, of Green Island; Dr. F. TOWNSEND, of Albany; Dr. D. H. COOK, of Albany; Dr. R. H. SABIN, of West Troy; Dr. W. B. SABIN, of West Troy; Dr. A. T. VAN VRANKEN, of West Troy; Dr. ISAAC DEZOUCHÉ, of Fulton County; Dr. G. E. LYON, of West Troy; Dr. W. L. SCHUTTER, of Albany; Dr. E. A. BARTLETT, of Albany; Dr. H. BENDALL, of Albany; Dr. O. D. BALL, of Albany; Dr. W. H. TOWSLEY, of South Richmond; Dr. MAURICE J. LEWIS, of Albany; Dr. T. Z. GIBBS, of Fort Ann; Dr. LEMUEL CROSS; Dr. N. A. POWER, of Toronto; Dr. C. S. MERRILL, of Albany; Dr. F. L. CLASSEN, of Albany; Dr. DAVID FLEISCHMAN, of Albany; Dr. MARY DUBOIS, of Albany; Dr. H. S. CASE, of Albany; Dr. G. L. ULLMAN, of Albany; Dr. J. D. LOMAX, of Troy; Dr. W. M. McLAURY, of New York; Dr. LEWIS BALCH, of Albany; Dr. JOHN THOMPSON, of Albany; Dr. J. F. BARKER, of Albany; Dr. T. W. NELLIS, of Albany; Dr. H. B. ALLEN, of Baldwinsville; Dr. W. J. NELLIS, of Albany; Dr. A. M. SMITH, of Williamstown, Mass.; Dr. N. S. BABBITT, of North Adams, Mass.; Dr. HENRY E. ALLISON, of Waterloo; Dr. M. J. ROBERTS, of New York; Dr. T. C. WALLACE, of Cambridge; Dr. WILLIAM STEVENS, of New York; Dr. HARRIET A. WOODWARD, of Albany; Dr. L. ROUCHEL, of Albany; Dr. B. U. STEENBERG, of Albany; Dr. R. D. CLARK, of Albany; Dr. J. D. McALLISTER, of Albany; Dr. J. P. BOYD, of Albany; Dr. G. H. NEWCOMB, of Albany; Dr. R. H. PLUMMER, of San Francisco; Dr. C. DEVOL, of Albany; Dr. D. C. CASE, of Slingerlands; Dr. ANTHONY TEN EYCK, of Defriestville; Dr. W. H. ROBB, of Amsterdam; Dr. P. J. KEEGAN, of Albany; Dr. A. FOWLER, of Albany; Dr. AGNES SEELYE, of Bath, Vice-President of Steuben County Medical Society.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THE PRESIDENT'S ANNUAL ADDRESS.

(Concluded from page 151.)

These discoveries increase rather than remove our doubts as to what lies beyond, but their far-reaching results, of which the foregoing are but hints, are the product of the present decade of investigation, and we stand but at the threshold of these directions of biological research. They

serve, however, to show that "the results attained by those who have labored simply to extend our knowledge of the structure and properties of living things, in the faith that every increase of knowledge will ultimately bring its blessing to humanity, have, in fact, led with astonishing rapidity to conclusions affecting most profoundly both the bodily and mental welfare of the community."

The attitude of the community toward scientific study is primarily that of antagonism. Innovation provokes opposition. There are many years, but one sentiment, between the persecution of Galileo and the onslaught on vivisection; 1616 has somewhat of kinship with 1884. To the great mass, whose interests are mainly confined to the harsh treadmill of life,

"Storing yearly their little dues of wine and oil,"

scientists and scientific study are a matter of indifference, not infrequently mingled with contempt. Popular government has never initiated any movement to promote research, for that implies a cultivated sentiment among the voters, and the English-speaking nations have done almost nothing in the way of State appropriations for scientific study. Germany, France, Russia, Holland, Belgium, and Italy are, almost exclusively, the originators of the later methods. From their laboratories have come the great discoveries of modern times, and this because in these countries the laboratories have been under State patronage. The most that has been done in England and the United States has been done by those men whose capacity for scientific discovery has been accompanied by the possession of private fortune; the remainder has come from work incidental to the occupation of professorial chairs.

Professor Lankester, in an address to the biological section at the late meeting of the British Association, has gone over this subject in detail, and, while he has provided nothing new in the way of argument in his comparison between the scientific resources of England and Germany, he has stated some interesting statistical facts. While Germany, with its 45,000,000 of population, has 21 universities with 100 institutes devoted to the prosecution of biological study, providing posts for 300 investigators at an annual cost to the State of about \$3,000,000, the annual expenditure of the 21 universities being about \$4,000,000, England, with its 25,000,000 of population and its greater wealth, has but 4 universities, which possess endowments and professorates containing but 38 positions. The author quotes the prime minister, who has taken much interest in science and learning, as saying that the \$135,000, the capital sum expended on the Nottingham College of Science, "was a very important contribution to the support of learning in that country."

In this country, neither the nation nor, to my knowledge, any State has done the first thing to further scientific research directly. Much has been done for industrial education, and a great deal of research is really carried on under cover of State and Government appropriations, but all is of secondary moment to the powers that be. We have in the Government the Geological Survey, the Coast and Geodetic Survey, the National Observatory, Museum,

Nautical Almanac, Signal Service, etc., and in the States the Fish Commission, State Geological and Topographical Surveys, Museums, Laboratories, Agricultural Stations, and what not, but all were established (and receive their support in view of the work they do) for some "practical" end. Valuable results have been obtained by the great and admirably conducted exploring expeditions in the West, but these have been incidental. The surveys had a practical aim which would have been accomplished without the scientific observations and the collections which were made. Similarly, the valuable observations of the Signal Service form contributions to scientific theory and practice, but the end is practical. The same may be said of the National Observatory at Washington. The Smithsonian Institution indirectly combines research, publication, and collection. It has been magnificently managed from the first, but it was the endowment of an Englishman. The State Survey of New York and Pennsylvania, the former under Professor Hall, the latter under Professor Leslie, have been prosecuted with a similar utilitarian purpose, though the results as published are a noble contribution to science.

Scarcely any provision has been made until recently for biological science in an institution of learning beyond elementary instruction. New research is contemplated in a few, notably in the Johns Hopkins laboratory and in the investigations by Dr. Martin in Chesapeake Bay and at Hampton. This enterprise is due to private beneficence, and its results, especially in investigating the various modes of propagating the oyster, have induced the State to promote further studies in this single direction. Alexander Agassiz's laboratory at Newport is supported entirely by his private purse. Professor Baird's work, viz., that of the U. S. Fish Commission at Wood's Hole, has certain facilities placed at its disposal by the Government, as a revenue cutter for soundings, etc., etc., but this was originally and mainly the work of the Smithsonian Institution, and remains in great part the same. The Museum of Comparative Zoology at Cambridge is due to the enterprise of Louis Agassiz, though the State gave in its aid \$293,000 in various bequests, while private individuals have given about \$696,000.* President Eliot said, in an address in New York, that Alexander Agassiz's gifts alone were worth nearly \$1,000,000. He has built, at his own expense, a large addition to the museum.† George Peabody's gift practically adds to the resources of the museum, though given for a specified purpose and under separate control. In some branches the museum surpasses in its collections the British Museum and the Jardin des Plantes. Research is not the primary object here. Agassiz's idea was to teach students how to observe nature, to educate naturalists; but the great collections and the original investigations are now first, though courses of lectures and instructions are given. The Peabody Museum at Yale is due to George Peabody and to Marsh's private fortune, while Cornell University, in this State—which publishes bulletins of investigations by Professor Comstock in entomology, the diseases of fruit-trees, etc., by Professor Prentiss in botany, and others in agricul-

* Report of 1876.

† Report of 1880.

tural chemistry, veterinary diseases, etc., where Professor Law is conducting a valuable series of experiments regarding inoculation for pneumonia—is again private munificence, supplemented by the national land grant, which latter did not contemplate anything but instruction. This review includes most of the various scientific institutions which exist in this country and afford facilities for original research. There are, of course, several astronomical observatories which have been established by private beneficence—as the Lick Observatory in California, the Swift at Rochester, the Dudley at Cincinnati, and others; but these only illustrate the rule.

The facts do not prove the basis of complaint. The scholars must always be the select few. Their audiences are gathered from narrow limits, and, though their influence is to the bettering of the race, that influence is slow in diffusion. Scientific work is unselfish and not mercenary. Its productions possess but rarely any marketable value. Its inspiration is the discovery of the true, and the zeal displayed has in it no element of personal aggrandizement. "There is generally little or no pecuniary reward for the success of men of science. The public do not eagerly crave each new memoir on the higher mathematics. A crowd does not gather around the bulletin to read the discovery of a new asteroid or organic radical." The bacillus of malarial fever might hollow out the historic niche for its discoverer, though the discovery would not sell for a dime.

The pursuit of that selected and diverse learning which makes up the body of medical science is entered upon and becomes an absorbing passion from motives other than the expectation of livelihood or emolument. Once within the arcanum and groping among the shadows and mysteries and uncertain footholds of the strange land that lies above and below and around the crowded places, where the strife for existence and human greed trample one upon another, men will wade through misfortune, suffer privation, endure hardship, and smile at penury, tranquil in the assurance that, if indeed they do not themselves enter the promised land, they will have made part of the road smoother for those who are to follow them. It is easy to see the force of what earnest men have plead for, that the tone and breadth of the civilization would be strengthened and enlarged were the community to recognize the ministry of its workers in science and foster their efforts; but the attitude of the public does not favor the expectation that this can be. The cultus of medical science must continue to share the experience of all original investigation, and remain a personal factor among the diverse directions of human industry. Multitudes stand ready to seize the results of its labors and apply them, in ways that men can understand, to the satisfaction of human need. They who cull the flowers, enjoy the fruit, reap the harvest, or sell the crop, are of different mind and other station than they who till the ground, plant the seed, nurture the sapling, and wait, through recurring seasons of sun and snow, till the sturdy limbs are shelter and refreshment to the unthinking life that recks not of its benefactors. There is a medical science; but if medicine were a science only, there would be fewer medical schools than now exist.

There is an art of medicine, and its multitudinous votaries attest the fruitfulness of its pursuit.

In 1880 the States and Territories of this country held a population of 50,155,783, and of these 85,671 persons were enumerated as either physicians or surgeons—a proportion of 1 to 585. In the State of New York there were 5,082,783 persons, of whom 9,272 were doctors—a proportion of 1 to 548. What the ample front doors of the medical colleges, with the signatures of numerous licensing bodies, have done during the past four years to swell the total, it would be hazardous to speculate upon. But these salutary, health-forecasting, and longevity-producing statistics stamp the effete and tottering governments of Europe with the die of derision in their infamous disregard of human comfort, and put an extra gilding on Columbia's protecting ægis, prolonging the beauty of her daughters and the bravery of her sons; for while the proportion of doctors to population in Switzerland is 7.06 per 10,000; in Italy, 6.10; in Hungary, 6.10; in England, 6; in Austria, 3.41; in Germany, 3.21; and in France, 2.91, the United States, with their 17.1 per 10,000, have consummated what Berkeley foresaw but did not dare to write—*Westward the doctor's empire has full sway.*

The causes of this disproportion are complex and do not rest on the surface. If primeval man had no doctors, if the barbaric cultivate here and there a medical fetic, if the semi-civilized and the savage at times listen to the incantations of a medicine man, if free air and simple habits do not crave the overflow of medical schools and the smoking chimneys of manufacturing chemists, then this great polyglot population, "in the foremost ranks of time," with its superfluency of civilization and the interwoven tinsel and solidity of its citadel, must have need of this great standing army "to guard the chinks of stone against calamity."

When it is considered, what every one knows and what would be very difficult to put in statistical array, that large and sparsely settled sections of the country are below the average supply of the ratio of population to doctors, that a very large proportion of the population is not so materially favored as to contribute the average quota to the support of this body of men, it would appear at the first blush that the jeremiads, that have been pronounced by the pessimists over the decadence of the race and over the increasing disabilities of the people, superinduced by the demands of this intense civilization, had not been overdrawn. For though it is fundamental in political economy that demand creates supply, it is also true that supply creates new demands, yet beyond the point when supply exceeds demand the supply begins to shrink. In the considered case the demand seems not to be satisfied, for the number of doctors is increasing year by year, and that out of proportion to the increase of population, for the ratio is likewise becoming larger. Some solution of this problem may appear further on.

Taking this State, for instance, and averaging the income of these men at the very modest sum of \$1,000 per annum, the sum total of their annual receipts is equal to the entire receipts of all the charitable institutions in the State for the last fiscal year; and equal, also, to the amount expended on the public schools in the State during the same

period—a total of about \$10,000,000. As this average represents a cash income of about \$3 a day per man, the basis of calculation is ridiculously small. Applying the same average to the entire force of medical men in the country, the total income of the profession would be some \$12,000,000 in excess of the total product of the precious metals during the past year. These are conspicuous comparisons, but one can form his own judgment as to how far these estimates are below the actual facts. However estimated, they serve to show a liberal provision for one class of men, who, with due explanation, can not be said to belong primarily to the producing interests of the country. As a means of livelihood, the profession of medicine is attractive, and little wonder need be that its ranks do not on this account suffer depletion.

From the social standard the profession elevates the man, no matter of what stuff he is made, if he does not ostentatiously disgrace himself. If he goes into Coventry, he goes in spite of the strong sentiment in favor of his guild, which would keep him back if it could. There are social grades, and physicians to fit each, and in each he is easily at the top, for no other class of men so promptly secures social place and recognition. The fact is patent, and this impulse is certainly not insignificant in the choice of a future.

Combining the certainty of livelihood and the assurance of position, it will in this day hardly be questioned that no other walk in life, in professions or affairs, holds out such positive promises of immediate reward and of continued permanence, to men of all ages and grades of ability, as does the medical profession. Coupled with the growing distaste for downright hard work and the scramble for the easy places, facts go to prove that, with a determination not to outrage public opinion and an avoidance of nomadic tendency, any man, no matter what his antecedents of deficiency of culture or failure in vocation, endowed with his doctorate, has an unshakable foothold in life. Despite the fact that every member of the profession is perpetually the recipient of sympathy from his clientele over his engrossment of time and irregularity of sleep, there is a larger success per thousand, with less bankruptcy, with freer and more varied opportunity, than belongs to any other class in any of the lines of occupation along which men grope their way through time.

It is superfluous in this presence to relate how gentle the acclivity that appears, how wide open the portals that invite, how roseate and verdant the paths that gladden, how radiant the sentinels that summon and assist the novitiates on their way to these easily acquired places of esteem and support. With one chartered medical school to each half million of population, and the licensing authority of a vast number of other corporations, the invitations to the profession are as urgent as the gifts of the degree are lavish. The restrictive barriers are so loosely set up, and the final test of fitness so daintily applied, that the former are cast down as easily as the latter is overcome. That a strong professional pressure and a sense of the fitness of things have elected some institutions to take a vigorous and exceptional stand on the side of rigidity, making their diplomas an assurance of capacity and a promise of an industrious and

honorable career, does not affect the influence of the fact that in law, privileges and immunities, all diplomas are on a level. There is not even the seclusion of an open secret. There is the common knowledge among medical men that their ranks are recruited continually with men who but yesterday stood behind the counters and desks of all kinds of business, and who, by accident or vagary, suddenly were translated behind an office sign, having accomplished the distance in accord with the most perfunctory of formalities in the minimum of time. Whether this is wise or unwise, right or wrong, is not in the drift of this paragraph. The facility of admission is the pertinent fact.

The time was, and the fiction has not wholly faded from common speech, when law, medicine, and theology * were denominated the *learned professions*, as distinguished from the professions of the army and navy, because a university education was a prerequisite to these special studies. To-day, in the multiplication and distribution of special knowledge, this discrimination does not hold. The influences for the promotion of knowledge, and the manifold appliances of educational machinery, have lifted up the entire people to a higher plane of culture than any previous generation has enjoyed; and the classes of journalism, literature, and the polytechnic forms of industry, wherein certain lines are cultivated for purposes of livelihood, contain, within each, an amount of general learning which can creditably accept the wager of any competitive comparison. Without abating one jot of regard for the supreme advantage of early liberal education, it is nevertheless true that there are, in numerous professions and occupations, multitudes of instances of a liberal education not constructed within college walls. The profession of medicine has not kept her distinguishing place. Not that great men have arisen in other and various walks of life; that is in the spirit of the time. Not that she has not had exponents in every decade who have been the peers of the best; that is within the facts of her history. Not that general knowledge has increased so that her individuality has been lost; that would tacitly deny her immense scientific advance and obscure the progress of her art. But her recruiting sources have been so many, her safeguards of loyalty have been so weakened, her probationary tests have become so insignificant, that, however smile-provoking may be the mention of the wig and cane, there is scarce anything left of the old spirit of the knight and the *preux chevalier*; and the proportion of medical men who are in accord with the medical profession at its best, both in knowledge of its results and in capacity to do, is rapidly lessening with the years.

There is an inconsistency in all this which does not mitigate the complexity of the problem. The profession has never lost sight of the sacredness and importance of its trust, at least if spoken words are not hollow and meaningless. Glowing periods of earnest speech have, over and over again, proclaimed its ministry of helpfulness, the value of human life to family and affairs, the supreme necessity of single-mindedness in this work of mercy, the rewards that come, estimated in approving conscience if not in coin,

* In 1880 there were 64,698 clergymen and 64,137 lawyers in the United States.

the need of persistent study and a ripening culture, so that, faithful to his profession and loyal to his guild, the physician may be inspired to unite the utmost wisdom of his time with the gentleness of sympathetic manhood in restoring the stricken to the activities of life or soothing the inevitable passage into the beyond. These are familiar themes. And also the inconsistency appears in the fact that there are no grades of responsibility. Men talk of important cases; they mean, not gravity of disease, but the surrounding accidents of family, wealth, friendship, and important trusts which stand in jeopardy of disruption or shock. And yet who shall stand arbiter over the relative value of human life? While it can not be expected that all physicians shall be those who, endowed with varied resources, "unite the natural love of healing with the highest spiritual development," yet it would appear as if those who are to stand on equal terms with the best, share the like responsibilities and stand face to face with similar duties, should give some adequate guarantee of fitness.

If these statements misrepresent the facts, no charity should be permitted to condone the mistaken zeal that would abuse the opportunity of this platform and cast slander and reproach on the profession; but if the statements are true, the safer plan is to examine the facts, and it is privileged to follow up the consequences.

The profession of medicine, at its best and in its ideal condition, includes a body of men who, instructed in the medical sciences, studious in the observation of bodily disorder, conversant with the normal type of bodily condition, acquainted with the causes that subvert the normal type, expert in recognizing the tendencies to dissolution, and skilled in the devices that alleviate and restore, offer to serve the community for a consideration. The end of all medical learning is to make sick people well, to assuage the discomforts of the incurable, and to promote the euthanasia. Abstracting this, medical science, with the splendid results of its erudition and the achievements of its recondite research, is but a department of zoölogy, the natural history of the animal—man. The profession does not occupy a professorial or oracular tripod, from which knowledge is dispensed on an endowment or a salary. On the contrary, personal time and labor are furnished, on which a price is set. There are no boundaries within which any one member has the monopoly. The restraints to destructive competition are based on the recognition that the wisdom of each is dependent on the experience of all.

The matter of compensation for medical services has been handled with many degrees of sensitiveness, but, no matter what the particular fashion—of voluntary honorarium or established fee—the fact remains that the arts of medicine are practiced as a means of livelihood. It is contrary to the popular understanding, but still the fact, that the cases where money is amassed from the practice of medicine are very exceptional. This compensation is governed by a variety of circumstances; but the rule holds generally true, that in any given locality or special department the best is the most fully favored. "We still talk of ancient heroes, and even the luster which clothed winners in the Olympic games, but nothing which the strength-worship-

ing Greeks could bestow in the way of popularity or public honors was comparable to the fame and substantial profits which fall now upon a man who much excels his fellows in no matter what."

Of course, it is impossible to estimate how many of these 80,000 doctors confess the faith and reverence the lineage that are confessed and revered in this body, but it would be idle arrogance to assert that universal dishonesty is characteristic of the remainder which the community is content to employ and compensate. When it is clear that the trade instinct does not exist in our own ranks, it will be time to attack competition on this ground. That special medical arts should be selected for purposes of trade, is derogatory to the best interests of the profession as a whole; but where medical men are so numerous, and livelihood is at stake, competition will choose its own field of operations. It will hardly be doubted that the desire to benefit the patron is strong in most that practice medical art, and that no class of practitioners is callous to failure.

The sense of loyalty to the heritage and mission of medical learning has been so instinctive in its history that any suggestion of its trade instincts has been met by prompt rebuke; and men have stood ready and valiant to oppose the charge that mercenary motives were the inspiration to the daily deeds of mercy and kindness, of forbearance and sacrifice, which have been its crown of glory, and which none but those who have borne the burden and endured the trial can ever know. It is, however, not only likely, but true, that the increase of workers in a field whose natural product would be sustenance for a less number would develop ingenuity whose artificial forcing would prove a detriment to the soil. If impositions are practiced, if needs are multiplied, if deceptions are instilled, so that the confidence of the community is abused or made subservient to the material growth of any part of the profession, to that extent or in that direction the attitude of the profession is hostile to the best interests of the community, and the hostility is provoked by the mad rush into its ranks, which neither the profession nor the community have taken any measures to control. There is no need of the apology of this hypothetical statement. Charlatany is rampant, and the name of doctor covers lies and practices which are a ruin and a curse to the people. Those who are true are for ever on their defense against their titular parasites, and the stand for honorable manhood is weakened by the assaults of its irresponsible foes.

In the multiplication and precision of the medical arts, in differential diagnosis and the consequent enlarged nomenclature, in the multifarious forms of therapeutic appliance, and in the bold interferences of surgical practice, the best of the profession stand equipped with information and resource far in advance of any period of its history. By reason of this, its responsibilities are increased, and the demand is greater for the exercise of conscientious and intelligent critical apprehension of the particular conditions to which this analytical knowledge is applicable. A good physician is not necessarily a learned man. Experience, sagacious observation, strong intuitive perceptions, with the minimum facility in advanced appliance, have made, and will continue

to make, successful practitioners of medicine. But these are not the teachings of text-books, and are not the themes of the medical lecturer. However, it will hardly be questioned that skill in differential diagnosis is the safe basis of treatment, and varied resources in medical art lead most rapidly to the best results; and the faithful student in the profession is the one most keenly alive to the importance of both. When the pre-eminent importance of accurate diagnosis is considered, when the difficulties that environ its acquisition are appreciated, when it is understood how patient and enduring are the observations that lead up to the mastery of the nomenclature of medicine and the comprehension of the varied conditions it represents, it is humiliating to hear the most profound disorders that afflict mankind bandied about in common speech as the veriest playthings of the hour. The diphtherias that come into homes as plentifully as summer showers over the landscape and pass away as soon; the peritonitis that disturbs the quiet of the night and is dissipated with the morning dew; the pneumonia and spinal meningitis, that early recognition and prompt specific lead in a few days to vigorous health, are all recounted, with flippant unconcern, in drawing-room and social circle, on the highway, in the mart. These are not the manufacture of the people, for the terms are foreign to domestic culture. It were refined cruelty to charge upon the doctor such consummate ignorance; better far to credit him with the knavery that can command untruth to advance his interests of fortune.

On the other hand, it is asking too much of credulity to believe that the attitude of the profession is friendly to the community when the lavish gift of the doctorate puts into so many undisciplined hands the medical arts which are as potent for evil as for good. Is it too much to assert that uncertainty of diagnosis runs parallel with the free use of drugs, and that confidence in specific therapeutics decreases with experience at the bedside? What inferences are deducible in this direction from the multiplying drug-stores and the rapidly enlarging business enterprise of the great manufacturing chemists? Is it supposable that the ingenious activity of pharmaceutical industry, in devising the protean forms and potencies of foods and medicine, is all on the side of the public interest? Does it appeal to the public direct, or is it profitable through the medium of the profession, who act as agents to benefit the manufacturer at the expense of the people—the only commission being the desertion of the tried for floundering experiment with the novel? Does the per centage from the truss-man and the druggist mean anything more than the struggle of incompetency to eke out a livelihood at increased cost to the people? Is the community safer with broadcast hypodermic morphia, aconitia, and strychnia (vegetable medicines forsooth) than with a blind surgeon exsecting a tumor from the axilla? Whence comes this malaria, that has jaundiced the speech of men, but from the track of the scapegoat making for the wilderness, burdened with the easy diagnosis of lazy incompetence? Has the clinical thermometer proved an unmixed good, when every pyrexia is the impetus to indiscriminate quinine? and who is responsible for the "one-cent-a-grain in pill or powder" that blazon in the sunlight, through

colored globes in shop-windows, along every thoroughfare? Has the speculum contributed to the moral sense of the community, while prurient or needless interference, with most cruel vandalism, is invading the sanctity of the home and making the daughters of the land wise before the time?

Humiliating and unsavory though it be, the regnant fact holds true that—coupled with that large body of men who acknowledge an ancestry of scholars and faithful students of nature, who base their art on principles which have survived criticism, who practice their art in the interest of the physical and spiritual well-being of their fellow-men, whose livelihood is a legitimate product of their worthy and acceptable service—there is another and large class, known not only to the census enumerator but to the community by the same name, with equal protection under the law, who, with insufficient culture and consciences dulled through habitual and ignorant tampering with grave responsibilities (described lately, by an influential medical journal, as "hangers-on of whom any party would be ashamed"), are a standing menace to the community, which, accepting all as competitors in the race, gives to all alike its patronage and its support.

While the history of research has proven that the community has been slow to recognize its duty to scholars in facilitating their inquiries into the facts and phenomena of physical life, which have developed laws and expedients so important and far-reaching in their influence on the well-being of the race, yet the contrary holds true in the attitude the community sustains to medical art. Certainly, in this country at least, in the broadest sense, up to the limits of its education, the community has been a lavish patron of the agencies that alleviate disorder, and a co-worker in enforcing the instrumentalities that prevent disorder.

It seems a little absurd and contradictory that a life-insurance company, whose assets are counted among the many millions, amassed through operations based on laws of heredity, statistical tables of mortality, the understanding of normal life, and the natural history of diseased conditions, all of which are the product of the industry and acumen of medical men, should consider three dollars an equivalent for decision on a proposed risk which would mar or make its thousands. But it must be considered that special knowledge has a marketable value, according as it is possessed by the many or confined to the few. It is the characteristic and the glory of scholars that their labors are a free gift to mankind, while the acquisition of knowledge, and the skill to apply it, are in the free opportunity of any and all who may choose to avail themselves thereof.

Whatever may be the criticisms leveled against the conduct of dispensary and hospital services, and apart from all considerations that attract appointments thereto, it seems somewhat contradictory that the benevolent instincts of Christian civilization that cares for its poor, its helpless and infirm, should accept as a gratuity, not the knowledge of the means of relief which is free to all, but the personal time and service of those who have acquired the means of applying the knowledge that relieves society of its burdens and restores its pensioners to the ranks of industry and self-support. But here also it must be remembered that the

capacity to relieve is the instinct to ungrudging service, and, through all the history of medical art, in public institutions and wherever in private life distress has been found, the best gifts of the best men have been freely offered, without the least listening for the clink of coin.

If the serpent had never trailed his way along the Euphrates's banks, primeval man might have been in this audience room, and biological science might have spent its energies in extracting the secrets of normal life; but "by sin came death," and medical science exists to delay the inevitable doom. The community shrinks from the approach of dissolution and simply asks of medical art that its pain be relieved and that it be restored to the plane where its activities may have full play. The saint calmly and intelligently looks death in the face; but the community is not a saint, is not calm, is not under the control of its intelligence, and, while there is hope of life, its emotions have the mastery, and it accepts any promises with docility and in full faith. The stolid indifference to life in the barbaric races is replaced in the higher civilizations by an intense clinging to life, and the fear of death is the universal passion. Intelligence is in abeyance in alarm. If rational medicine marvels that its claims have not met with universal acceptance, it must admit that it has embraced too many incompetent interpreters and that its claims have not been properly presented; or it must also accept the common lot of advancing knowledge, which is always ahead of the community, labor assiduously and wait patiently, amid opposition, for that larger culture which is of slow growth, when reason dominates emotion, and where superstitious awe, in the presence of the unknown, fades before enlightened comprehension of scientific truth.

Certainly the community is not slow to accept the offers of mercy, for, while it submits patiently to all that is ordered by the profession, takes all its medicaments, undergoes all its operations, awaits the results of all its experiments, and unhesitatingly believes everything it says, and quotes it, more or less correctly, for the neighborly benefit, the community, in its charity toward all, does not allow the profession monopoly in the practice of medicine, but, with its faith in drugs and measuring their efficacy by the violence of their operation, it swallows, on bare printed promises, \$60,000,000 in proprietary medicines per year, and assists the fortunes of drug dealers to the extent per annum of \$80,000,000 more.*

Such bold and childlike confidence is rudely shocked when a cosmopolitan daily asserts that "expert testimony no longer occupies the place in public esteem it once held";† when a well-known lawyer‡ charges in open court that "you could buy the most honorable members of the medical profession as you could horses in the open market"; and when a judge passes by the claims of the alien-

ists* and appoints a dermatologist and a gynecologist (both excellent men) as a commission to examine a man on a lunacy writ. But these assaults on virtue are not without parallel, and the fact still holds that the attitude of the community to the profession is eminently docile and receptive.

On the other hand, the profession has no just complaint against the attitude of the community in the exercise of its law-making functions. I am not aware that any Legislature has ever initiated any statute designed to restrain the freedom of the profession. On the contrary, the law-makers, in chartering medical institutions and societies and in legislating for the apparent protection of the people, have granted about everything that everybody with a claim to respectability has asked, distributing immunities with a free hand. That legislation has not infrequently been contradictory in any one State and multifarious in the country, by reason of the numerous law-making bodies, enforces rather than impugns the considerate attitude of the legislators in their respectful reception of professional petition. The direction of professional effort is so clearly in the public interest, and so removed, in every detail, from clashing with the public interest, that those who look to the Legislature for relief and protection have reason to be assured of an unprejudiced hearing.

The convictions of medical men in the direction of sanitary precautions are so strong, and the theoretical argument in favor of these precautions is so convincing, that criticisms, amounting at times to denunciation, have been freely expressed in the medical press and in conventions for the discussion of these subjects; on the one hand, against the apathy of the individual in not acting upon sanitary information so freely given, and, on the other, against the hesitancy of the law-makers, State and municipal, to legislate radically on these matters. It will not hinder the work of sanitary reform if it is kept in mind that the argument is not yet concluded; that the utility of "costly and troublesome hygienic devices" has been called in question; that medical men themselves have not mastered the subject, and are very far from being agreed as to details; that there is no inconsiderable share of the people who look upon sanitary interference as an invasion of their personal rights, and that public health laws can so easily be made an engine of oppression. If it could be proven that the filth diseases never occurred in a house where the known conditions of perfect sewerage were fulfilled, there are plenty of citizens who would exhaust the last intricacies of the plumber's art to fulfill those conditions for their own personal safety; and if it could be proven that these same diseases could not occur in a city or a State under similar conditions, there would be a moral obligation on the law-making bodies to levy appropriations needful to fulfill these conditions. But there are many factors wanting and unproven in this and other sanitary problems, and, in default of accurate and exhaustive knowledge, legislators must move warily before setting in motion the machinery of a statute. The journals are not wanting in the cards of "consulting sanitary engineers," whose warrant for the title is more or less obscure, and the sign-boards of the "sanitary plumber" meet the eye at

* These figures are doubtless far below the actual facts. The census reports 563 patent medicine establishments, producing \$14,682,494, and 8,592 drug and chemical establishments, producing \$38,173,658. Three times this amount, distributed through the 30,000 drug-stores, would give an average total sales for each of \$5,000.

† "Brooklyn Eagle," August 6, 1883.

‡ Judge Tracy, quoted in "New York World."

* Judge Cullen in the Van Augen case.

every turn; but men may be pardoned who decline to accept implicitly the opinion of the one or the handicraft of the other. Information of this kind is not confined to a class, and men naturally chafe under oppression. When it is considered that within fourteen years twenty-nine States have authorized State boards of health, with large facilities for investigation, there is much to hope for and little to discourage in the friendly attitude of the community. On the contrary, the profession will look, with great inquisitiveness, for the conclusions at which these State boards may arrive.

And once again the instances are apparently increasing where the appointing power has seen fit to nominate other than doctors of medicine to the administrative offices in local health boards—an exercise of executive function which has been duly reported to the medical journals as a grievance. If such a health officer is to exercise discretionary powers, or powers plenipotentiary, then the appointment of other than a medical man is a grievance, for none but he is supposed to possess the information qualifying for the exercise of such powers. But if the functions of such an officer are purely administrative, to execute certain well-defined provisions of a statute, such an appointment is not a grievance. On the other hand, it may safely be called in question whether the habits and culture of a medical man are such as qualify him to best discharge such duties. And it is a matter of much more serious moment whether the delicate questions that must necessarily arise in the execution of a health law in a large community can rightfully be left to the decision of any one man.

But there is another view of this matter. The various information which is included in what is being called sanitary science is not the resultant of any one man's observation, nor of the men of one period, but a gathering together of the experience of men from remotest history. The scholarly element which enters into the slow accretions of all science prevails in this special department. It is intrinsically an integral part of medical science, and, like all scientific truth, it is a gift to universal knowledge. Once given, it can not be withdrawn; and, once given, it takes its place among the sources whence the community draws its inspiration to a higher civilization. It differs to-day from any past period in that more exact and larger methods are employed in its study; and, in common with all other special knowledge, its area is widening and its affiliations with kindred knowledge are multiplying. Like all other knowledge, it will have its epochs, and these epochs will be coincident with certain applications to human welfare; but, with each epoch, new applications will be defined wherewith the wiser sense shall raise to a higher plane the dependent brethren who need protection and support. Beyond the period when the people have appropriated the principles and formulated them into rules, and always in advance of the common thought, will be found the scholar still searching for the undiscovered, and still adding to the knowledge out of which are to come the wiser rules for the production of better men. The outlook of a healthy and guarded community is more beneficent by far than the possible chances of a community threatened with the shadow of calamity.

To claim that the medical profession is entitled to the emoluments of office in the execution of sanitary laws, is to claim a royalty from the engineer and the plumber; and, because its ancestry discovered that soil-saturations from privy-vaults in crowded localities is inimical to the public health, its descendants should have precedence in the competition for the office of night-scavenger. Devices, not principles, are patented. Medical men *must* always be advisory, executive they *may* be; but to hold their executive seclusion as a grievance, is to abuse the genius of their scholarly guild. The establishment of the various boards of health—municipal, State, and national—is the one great acknowledgment the community has made to the achievements and helpfulness of medical science; and this recognition is a gratifying recompense to all who have contributed to the result, and an unfolding promise of reward to all who may labor in this direction for the bettering of their kind.

If sanitary science really contains the "promise of the potency" its advocates claim, and if its results should become formulated into laws for the sure protection of large communities, the reciprocal attitude of the medical profession and the community must in the mean time have undergone many radical changes; so radical, indeed, that the imagination might snap in the stretch to compass them; so radical, indeed, that the "goneness" of "Othello's occupation" would be nowhere in the immense hollowness of that vacancy that once was alive with the busy ministry to ills, that then shall be but a dismal retrospect.

Of course, one can not fail to grant that each new medical school is stepping friskily into line with its predecessors to supply the "felt want" not only of the community but of the profession, and one may, in all charity, concede the utility of appeasing the unquenchable desire to teach; but one may also be justified in parting company with the practice of the period, and demand, in the interest of medical science, for the purity of medical art, for the maintenance of professional honor, and for the protection of the community, that the teaching and degree-granting authorities be *not* one and the same. Let the community, through its law-makers, legislate into control an acceptable judicial body, in which shall rest the decision of the fitness of candidates to assume the responsibilities, enjoy the honors, and reap the emoluments of professional life, and the sharp contests of dogmatic rivalry, the destructive wiles of medical harpies, and the weakening competition of medical schools would be rapidly equalized in the "survival of the fittest." Fitness is, in some sense, a test of honesty, and this safeguard the community has a right to demand.

No man has an inalienable right to practice medicine. He can choose to do so, but the public may adjust the tests of his fitness. When the great interests of the community are to be subserved, and when the community is incompetent to judge of the accuracy of details and the correctness of results, and, by the nature of things, never can acquire the competency to judge, the community is bound to seek its protection in exacting compliance with tests formulated by experts. "The doctrines of free trade can not be applied to professions. There can not well be true freedom of trade where the power of judging of the article traded

in or demanded is all and only on one side. It is for this obvious reason that the spirit of free trade has not been and can not be applied to those avocations commonly termed professions. The inhabitants of civilized countries, having desired legal or medical assistance, and well knowing that they were unable to form any immediate judgment on the quality of that assistance, have looked for and obtained external means of protecting themselves from bad law and bad medicine—means external to themselves. Such communities have required that lawyers, doctors, and others should give some evidence of qualification to official examiners, or have aided professional men to erect certain social barriers, known as etiquette and the power of the cold shoulder, for the exclusion of quacks, charlatans, and other unqualified persons from their ranks."*

"A grave question arises at this point, whether society has not a right to protect itself against the spread of these delusions; whether, indeed, it is not the duty of the Commonwealth to interfere. For it is the very essence of charlatanism to misdirect the feeble, while the natural consequence of indulgence in error is to still further vitiate and impair the mind. The quack who makes a living out of the follies of mankind is apt to be contemptuously dismissed by the sane as a minor evil-doer, as a scourge who may whip fools into wisdom, but in this view of the case, namely, that he is increasing the public burdens by undermining the reason of his dupes; even while he fills his pockets by mocking the hallowed traditions of the people, he becomes a public enemy. Against him all good citizens, regardless of creed or school, are bound to unite for the defense of their helpless fellow-creatures no less than for their own protection."†

This is solely a matter of agreement within the profession. If it sees fit to ask the community to take back the prerogatives it has bestowed and readjust them, experience has shown that the attitude of the community to the profession is so friendly that the change of base of the degree-conferring functions could be readily effected on the easy demonstration of the added dignity of the profession and the increased protection to the community.

It is estimated that three fourths of those enumerated as physicians and surgeons are, up to the limits of their individual competency, applying to the healing of human ills the best methods of experience, based on the knowledge derived from scientific research. The remaining 20,000 are an *olla podrida* of every conceivable specialty, having the common bond of applying each his own special method of cure to all diseases. The particular mode of cure is the trade-mark to attract patronage. If any is honest enough to vary his method of cure, with the hope of benefit to his patron, he is dishonest to his advertisement. If any are so bigoted as to believe that one mode of cure is applicable to all diseases, or if any are so rigidly adherent to their special trade-mark as to apply it to all, regardless of all consequences save their personal gain, the community is not only defrauded but damaged. It would be idle to deny that each

trade-mark covers some truth, or that some useful thing has been the stock in trade of some peripatetic healer, as witness the carbolic-acid injection for hemorrhoids. It is very doubtful if scientific medicine is wanting in any of the appliances which, taken alone, are the stock in trade of the exclusive practices. One afflicted with an incurable cancer, having exhausted all open knowledge, meeting with discouragement and denied all hope, is pretty sure to flee to some advertised succor, to be again disappointed, and for the reason that these arts had been previously exhausted. This is all there is of the great body of exclusive practices, stripped to the skin. Granting honesty of purpose to all this motley crowd, the community may be benefited by the application of certain arts, but the community is deprived of the benefit of all the other related and substitutive arts.

The personal factor enters so largely into individual success in the practice of medicine, that the community judges of results mainly by its observations of the mode by which the results are obtained. The community is influenced less by a system of practice than by its confidence in the man in whom it has trusted. The community is as incompetent to decide upon the merits of the former as it is capable of being deceived by the skillful manipulation of the latter. This personal factor makes personal character take front rank in qualification for medical practice. The community may suffer seriously by its patronage of nostrums and exclusiveness, but the community undergoes greater peril, and the *esprit de corps* of the medical profession is outraged infinitely more by the incompetency to which it has given its diploma, and by the dishonesty and trickery in its ranks, which it sees and can not control. Whoever can deny the one or the other is blind to human frailty, and he is to be credited with angelic confidence too pure and ethereal for this "vale of tears." The physicians who are floundering through the uncertainties that ignorance imposes, or who abuse the confidence of the community for purposes of gain; who will take any other course than to tell the truth and employ the most experienced devices to secure the speediest results, are beyond the reach of all codes, whether of human or archangelic contrivance. And yet the profession, in all consistency having granted these the degree with a free heart and a Godspeed, must consult with them on equal terms, and, in an emergency, defend them in the public confidence. To turn a child from the door as an outcast is inhuman.

Read McMaster's delightful description of the Doctor in 1784; see the same men as they are adapted to the social relations in varying communities all through the land to-day, furnished with arts and information that make them acceptable by every hearth-stone; prepare, to fill their places, men whose accomplishments shall be the test of fitness; and, with the assurance that character is the result of responsibilities well met, and that character alone is influential to make the educating impress on the community, the day need not be far distant when the medical profession shall be in the wiser confidence of the community.

There is a laudable pride in occupations, and its basis is the consciousness of doing a useful thing well. To defend his heritage is the chivalrous duty of the scholar.

* Professor John Attfield on "The Relation of the State to Pharmacy."

† "Brooklyn Eagle," on the Monek Case.

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884,

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE I.

(Concluded from page 148.)

The examination of the simpler animal brains, or embryonic brains above mentioned (Figs. 11-13), should itself be prefaced by the study of schematic diagrams representing the brain in various stages of complexity, and these in turn may be made more intelligible by prior reference to analogous modifications of familiar objects.

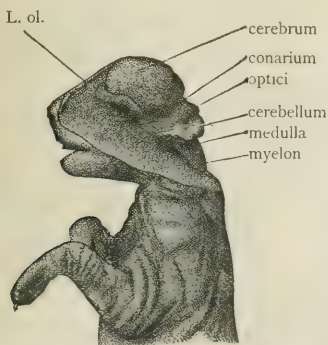


FIG. 11.—LEFT SIDE OF THE HEAD AND EXPOSED BRAIN OF A FETAL KITTEN measuring 88 mm. from the top of the head to the vent. Drawn by Professor Cleaves. In this, and in Fig. 12, the five encephalic segments are visible, although the dien is represented only by the conarium.

In accordance with this suggestion, the encephalic cavities may be likened to the apartments of a house.

The primary components of each room are the *walls* and the *space* inclosed thereby. The walls are specially designated as *floor*, *sides*, and *roof*, and there are communications between each room and those adjoining.

A room may be extended in one or more directions, symmetrically or asymmetrically.

The walls may be thickened uniformly or locally. In the former case, the room itself might be reduced to a mere passage; in the latter, the original space might be transformed into an irregular labyrinth.

One apartment may be built up much higher than the next and overshadow it. The larger may even overlap the smaller, and its thicker floor become so attached to the roof on which it rests that removal of the former tears off the latter.

Let us now imagine that a house consisting of such a

series of apartments is completely enveloped by a continuous layer of tarred paper, and that its rooms are lined throughout with wall-paper, the ceilings and floors being covered with the same.

Now, it is conceivable that (1) the proper wooden wall of any apartment might be so reduced in thickness at any point as to hardly merit the name; (2) it might be omitted altogether along a given line, leaving only the two layers of paper; (3) a fold of the ental or lining paper might hang within the apartment; (4) between the two layers of the fold might be interposed a fold of the ectal or covering paper; (5) instead of a complete fold of the ectal paper there might be supported in the fold of the ental some looped strings or fringes connected primarily with the ectal layer.

It is also evident that (1) while the fold of ental paper is really projected into the apartment; (2) the fold of ectal paper, or the strings or fringes of that paper, are covered by the ental, and are therefore not *really* within the apartment; (3) any force applied from within or without will be likely to tear the wall along the line of interruption of the proper wooden wall, corresponding with the line of reflection of the ental paper therefrom to form the fold.

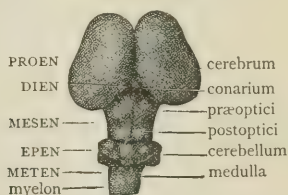


FIG. 12.—DORSAL ASPECT OF THE BRAIN OF THE FETAL KITTEN SHOWN IN FIG. 11. Drawn by Professor Cleaves. The names of the special parts are at the right, and at the left the names of the encephalic segments represented thereby. Excepting that the thalami are concealed by the hemispheres, the brain is readily comparable with that of the *Necturus* or of the frog.

After these easily apprehended statements of the possible transformations of a familiar structure, there need be no difficulty in applying the same ideas to the modifications of the brain.

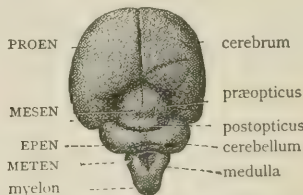


FIG. 13.—DORSAL ASPECT OF THE BRAIN OF A HUMAN FETUS; $\times 15$. Drawn by Professor Cleaves. Notwithstanding the great size of the cerebrum, all the encephalic segments excepting the dien can be seen. The right hemisphere presents depressions, some of which are probably the precursors of true fissures, but this question can not be discussed here. The roof of the metacele was torn off in the preparation of the specimen.

Now, however, comes up the question of nomenclature.

To the beginner, the unfamiliar names of the numerous encephalic parts, even when reduced in number and length, as will be proposed in the closing lecture, form a real and

serious obstacle. With students, therefore, few special names should be introduced at the outset, and the general ones should suggest familiar objects and conditions; such, for example, are *floor, roof, sides, lining, sheath, pipe, brace*, etc. But on the present occasion there is no objection to the immediate use of the technical terms which will be employed throughout.

Since several of these terms are based upon the names adopted for the several encephalic segments, it may be well to say a word respecting them. As already stated, the recognition of the segmental constitution of the brain commits no one to the acceptance of any particular number of segments, but with regard to one segment there seems to be little or no difference of opinion. From the "middle cerebral vesicle" of the embryo is developed the region which is so prominent in the early stages of development (Fig. 1), whose floor forms at least part of the *Crura cerebri*, whose roof presents the elevations known as *Lobi optici, Corpora bigemina, Corpora quadrigemina, nates et testes*, etc., and whose cavity is anthropotomically designated as *Aqueductus*

Sylvii, or iter a tertio ad quartum ventriculum. Von Baer, called it "Mittelhirn," which becomes "midbrain" in the English vernacular, and technically *mesencephalon*, which I have shortened to *mesen*.

The determination of the number of additional segments involves many considerations, and any view of the question must be tentative for the present. For example, there are grounds for the opinion that all the parts caudad of the mesen constitute a single segment, of which the cerebellum is merely a "local hypertrophy." Since, however, some definiteness is indispensable to an intelligible discussion of the subject, I have adopted provisionally the view indicated in the accompanying figure of the segments of the cat's brain (Fig. 14) and in the diagrams (Fig. 17). It has the practical merit of recognizing a segment for each of the five principal masses or apparent pairs of masses which, named in order from the myelon, are commonly known as *medulla, cerebellum, Lobi optici, thalami*, and *hemisphære cerebrales* or *cerebrum*; Fig. 14.

Fig. 14 illustrates the following points:

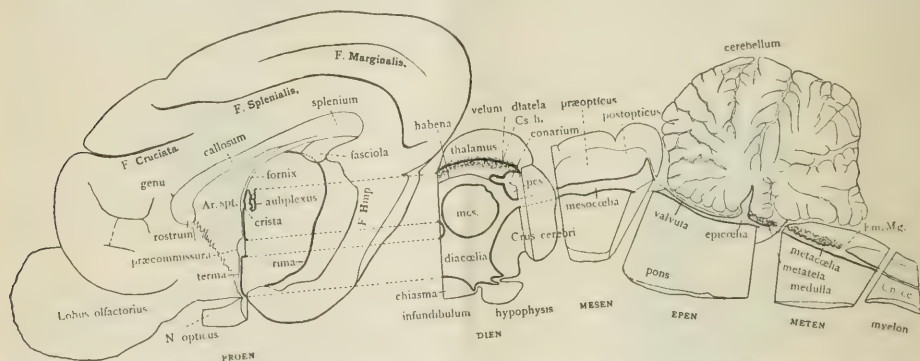


FIG. 14.—MESAL ASPECT OF THE RIGHT HALF OF A CAT'S BRAIN DIVIDED SO AS TO SEPARATE THE FIVE ENCEPHALIC SEGMENTS: $\times 1.5$. Drawn by Mrs. Gage. These are parts of the same brain, but the difficulty of making the intersegmental transections without injury is such that, for ordinary purposes of a diagram, it would be easier to prepare each segment from contiguous segments from different brains. Part of the chiasma had to be left with the proen, and part of the precommissure with the dien.

The heavy black line represents the *endyma*, the lining of the *cœlie*, and its divided ends are connected by dotted lines.

The following abbreviations occur: *apx.*, *aulplexus*; *cn.*, *conarium*; *Cs. h.*, *Commissura habenarum*; *dc.*, *diacelia*; *Fm. Mg.*, *Foramen Magendie*; *hph.*, *hypophysis*; *mcs.*, *medicommisura*; *mec.*, *mesocelia*; *pes.*, *precommissura*; *pop.*, *postopticus*; *prop.*, *præopticus*.

1. The existence of the cranial flexure, but in a much less degree than in man.

2. The concomitant dorsal expansion of all the segments, giving to their mesal aspect the wedge shape which is simplest with the mesen.

3. The overlapping of the meten by the epen, and of the dien by the proen. The dien, in fact, occupied the excavation now bounded by the curved outlines of the fornix and the *fissura hippocampe*.

4. The complete circumscription of the *cœlie*, by the continuity of the endyma (indicated by the heavy black line), excepting at the caudal end of the metacelia ("fourth ventricle"), where, notwithstanding my prejudice to the contrary, I was forced to admit what seems to be a natural orifice in the metatela.

5. The large number (more than twenty-five) of important parts, in addition to the cerebral fissures, which are thus exposed by a mesal hemisection of the brain.

The large size of the medicommisura, and the concomitant reduction of the diacelia.

6. The non-visibility of the porta (*Foramen Monroi*), when the mesen is perpendicularly viewed; its position coincides very nearly with that of the level of the crista.

7. The slenderness of the mesocelia ("iter") and the small size of the epicle ("ventriculus cerebelli") as compared with the mass of the cerebellum.

8. The great difference between the two regions of the epicælian roof (cerebellum and valvula), which are, nevertheless, distinctly continuous.

Trusting that you will permit me to defer further discussion of encephalic nomenclature until the closing lecture,* I shall, when the use of names will save time and avoid circumlocution, designate the five encephalic segments by

* In the last lecture will be given a list of the technical names employed, with their synonyms and the abbreviations which are placed upon some of the figures.

abridgments of the general names more commonly employed: *Meten*, *epen*, *mesen*, *dien*, and *proen*. The cavities will be called *cælia*, and the cavities of the several segments christen themselves respectively *metacælia*, *epicælia*, *mesocælia*, *diacælia*, *procælia*, the shorter and simpler English form being mesocele, etc.; and in like manner we have *diatela* and *metatela*, *diaplexus* and *metaplexus*, etc.

In the brain of the adult mammal (Fig. 14) the cavities are small, especially those of the *epen* and *proen*; but, as shown in Figs. 15 and 16, in the fœtus, even of man, and at a stage considerably later than is represented in Figs. 2 and 3, the epicæle and proceles are comparatively large, and Tiedemann characterizes the fœtal mesocele (which is afterward so much contracted) as a "vast and spacious cavity."



FIG. 15.—CAUDAL ASPECT OF THE EPEN (CEREBELLUM, etc.) OF A HUMAN FÆTUS; $\times 2.3$. Drawn by Professor Cleaves. This shows the large size of the epicæle *a* compared with its parietes; the existence of lateral prolongations of the main cavity; the division of the dorsal aspect of the cerebellum into two lateral elevations separated by a mesal furrow; the existence of a thin caudal margin to which, presumably, was attached the *metatela*, and which may be represented in the adult cat's brain (Fig. 14) by the lobe just caudad of the epicæle.

The diagrams should almost explain themselves, but some general commentaries are desirable.

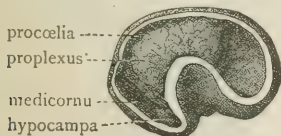


FIG. 16.—RIGHT CEREBRAL HEMISPHERE OF A HUMAN FÆTUS, about 4 cm. long; $\times 1.5$. Drawn by Professor Cleaves. This shows the large size of the cavity; the nearly uniform thickness of the parietes; the extent of the plexus; the early formation of the hippocampus ("hippocampus major") as a folding of the entire thickness of the medicornual wall; the commencement of the fissura Sylvii as a shallow fossa; the slight differentiation of the postcornu.

A complete and satisfactory series of diagrams of the development of the human brain will require material which, from the nature of the case, is not obtainable to order, and this material must be most carefully preserved and skillfully examined. Some of the stages, however, are fairly well known, and, as other writers on the subject have not refrained from describing the successive steps, I have ventured to substitute outline diagrams for words, and, in accordance with the first proposition on p. 145, the various kinds and locations of the stages of development are illustrated upon separate diagrams.

As compared with a description, a diagram has both an advantage and a disadvantage: it is more readily comprehended, but whatever is shown at all must be shown distinctly, and without the vagueness and qualification which would often more fairly embody our ignorance upon a given point.

For example, in several of the diagrams is represented the mode of formation of the entocælian plexuses. While

there is no doubt whatever that each plexus consists of a pial prolongation covered by the reflected endyma, the nature of the prolongation is less easily determined, and may, indeed, differ in different animals or in different parts of the same brain. This uncertainty is indicated by differences between the several diagrams, but on each figure it must be one way or the other. The only absolutely certain point is that *whatever is intruded is covered by the endyma, so that there is practically no interruption of the parietes*. So, too, the mode of introduction of the *callosum* and establishment of its connection with the fornix are not yet fully known. Again, since the several encephalic segments must be given some visible shape, that of the *sphere* has been selected as conventional and least objectionable, and probably true to nature in some cases or at certain stages.

While so far from satisfactory that considerable changes have already suggested themselves to me, and whoever uses them will see where improvements might be made, yet I can conscientiously recommend them to any one who is willing to make use of such a "labor-saving machine" as he would of a "working hypothesis" in advance of the demonstration of its accuracy in all details.

Since in the embryo and in the adult *Necturus* the encephalic parietes are of approximately uniform thickness, in those diagrams which represent only the forms and relations and modifications of the *cavities* the walls are omitted altogether.*

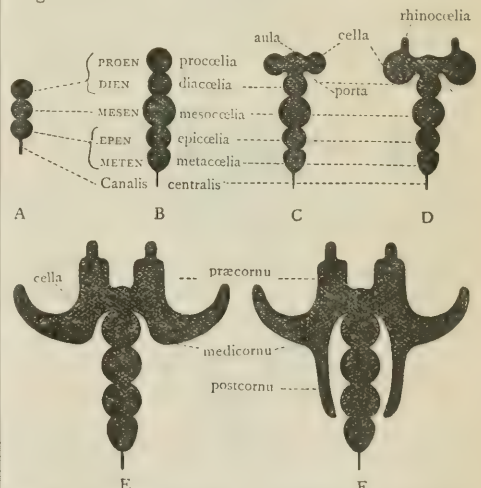


FIG. 17.—Six diagrams illustrating as many stages in the development and differentiation of the human cælie. To avoid complexity, the lateral diverticula of the dien (optic vesicles) and mesen (optic ventricles) are not shown; see the early part of this lecture, page 146.

A. The three primary cerebral vesicles.

B. The five secondary cavities developed therefrom. The middle remains unchanged; the posterior segments to form the metacæle and epicæle, and the anterior either protrudes or segments to form the diacæle and mesal proceles.

C-F. These represent the changes of the proceles, from a primitive mesal cavity, into one mesal (*aula*) and two lateral (*cellæ*) connected by the porie, and the subsequent differentiation of the rhinocele and the three cornua.

An encephalic cavity (*cælia*), like a mass of protoplasm,

* The diagrams (Fig. 17) were drawn by Professor Cleaves,

may partially subdivide (segment), may protrude symmetrically (bud), or be irregularly prolonged (cornua); Fig. 17.

One segment may be inordinately developed so as to overlap others in one or more directions (Fig. 19, A), and

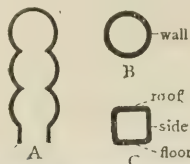


FIG. 18.—The parietes are here introduced and shown by uniform thickness. The trans-section C is squared in order to carry out the analogy between the encephalic segment and a room with floor, sides, and roof.

its floor may become intimately connected with the roof of a segment so covered.

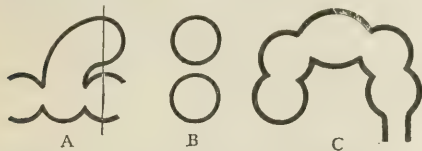


FIG. 19.—Here are illustrated the changes in the relative position of the segments.

A. One segment protrudes above another so that both are included in the trans-section B.

C. The entire series is flexed upon itself as in the human embryo (Fig. 1).

The entire brain may be bent upon itself (cranial flexure) (Fig. 19, C), or an elongated protrusion (cornu) may be bent (postcornu), or even bent and twisted also (medicornu).

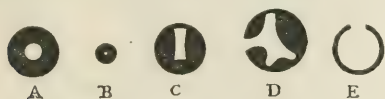


FIG. 20.—A-D. Diagrams illustrating the degrees and modes of parietal thickening so as to reduce the cavity of a segment or modify its form. E, the wall has disappeared at one point.

The walls (parietes) may be thickened (hypertrophied) (Fig. 20) regularly or irregularly, and even to the extent of nearly or quite obliterating the cavity.



FIG. 21.—TWO MODES OF PARIETAL CONVOLUTION. A, the entire thickness is involved, as with the roof of the mesen in some animals, a certain cerebral fissure; B, the surface is thrown into folds and furrows by superficial outgrowths, as with most cerebral fissures.

In the diagrams already given (Figs. 18-24) the parietes are represented as if of homogeneous composition.



FIG. 22.—THE THREE KINDS OF TRANSVERSE COMMISSURES. A, a differentiation of the parietes, as with the postcommissure; B, a junction of apposed ectal (internal) surfaces, as with the medicommissure; C, a junction of apposed ectal surfaces, as with the callosum.

In reality, however, there are, in addition to the proper nervous walls, membranes and blood-vessels (Fig. 25).

The lining is the epithelial layer, ciliated in part at least, called endyma or "ependyma"; the immediate sheath

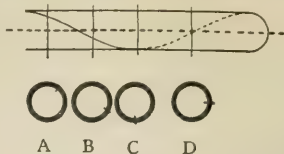


FIG. 23.—A tube is supposed to be twisted upon its long axis so that four points upon the same line are at as many different levels upon trans-sections. Such a twist occurs with the medicornu, by which the edge of the *Columna fornicis*, and of its continuation, the *fimbria*, comes to have different positions relatively to the lumen.

is the pia, which is vascular; and ectad of this is the arachnoidea. The pia follows the surface irregularities closely, but the arachnoidea crosses the depressions.

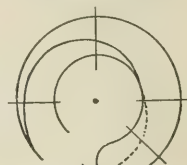


FIG. 24.—A tube like that which is given in Fig. 21 is supposed to be not only twisted, but coiled upon itself as the human medicornu is.

The walls may be thinned (*atrophy*), or disappear so as to leave at a given point only the lining membrane (*endy-*

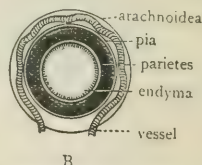


FIG. 25.—DIAGRAM OF A TRANS-SECTION OF AN ENCEPHALIC SEGMENT SHOWING ALL THE PARIETAL ELEMENTS.

ma) and the vascular sheath (*pia*), constituting a *tela* (Fig. 27, C).

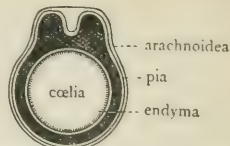


FIG. 26.—DIAGRAM SHOWING THE RELATIONS OF THE ENDYMA AND THE PIA TO THE UNDULATIONS OF THE WALL.

Along a line of atrophy of the proper wall a fold of pia, or a vascular loop therefrom, may push before it the endyma, and thus project apparently into the cavity so as to form a *plexus* (Fig. 28). Strictly speaking, however, neither the pia nor its vessels are in the endymal cavity in any other sense than a kidney or the intestine is within the cavity of the peritonæum.

The parietes may be corrugated so as to form ental elevations (*hypocampa*, *calcar*) (Fig. 31), with corresponding de-

pressions (*fissura hypocampæ*, *F. calcarina*), or, without corrugation of the entire wall, there may be formed superficial ridges (*gyri*) and furrows (*fissures*).

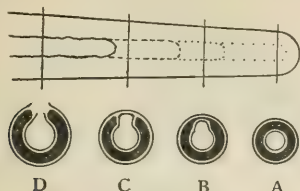


FIG. 27.—The upper figure represents a tube (medicorua) along one side of which the parietes differ as follows:

- A. For 1-2 cm. from the tip (in man) the cornu has thick nervous walls.
- B. Here, for a short distance (2-4 mm.), the proper nervous wall is quite thin, and presently disappears altogether, leaving only the lining endyma and the sheathing pia, as at C.
- D. The membranes are torn away, and only their torn edges appear, the line of rupture constituting a *ripa*.

Between the lateral walls may be developed bands of transverse fibers (*commissures*) (Fig. 34), either (A) in the pre-exist-

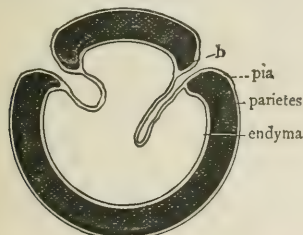


FIG. 28.

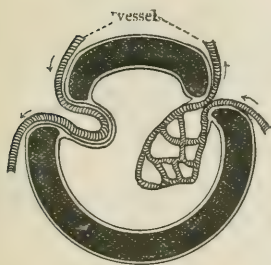


FIG. 29.

FIGS. 28 and 29.—Diagram illustrating the presumed mode of formation of a plexus, by the intrusion of a vascular fold of pia or of loops of blood-vessels from the pia at a point or along a line of abrogation of the proper nervous parietes. At the left of Fig. 29 both membranes are shown distinctly; at the right, they are so closely applied to the vessel that the endyma constitutes merely a surface.

ing wall (*postcommissura*, *Commissura habenarum*, and *præcommissura*), or (B) under the floor (*pons*), or (C) between the opposed lateral walls directly through the cælia (*medicommisura*), or (D) between the contiguous walls of two adjoining masses (*callosum* and *Commissura fornici*).

The remaining diagrams (Figs. 35-39) are designed to illustrate some of the presumed steps in the formation of the two great cerebral commissures, the *Commissura fornici* and the *callosum*. Whether or not all the stages actually exist, such a series as this will at least facilitate the com-

prehension of the relations of these commissures to the other parts of the adult brain.

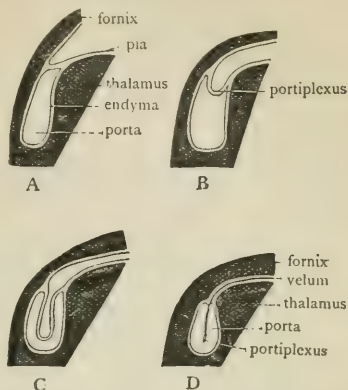


FIG. 30.—Four diagrams illustrating the presumed stages of formation of a simple plexus, that which hangs within the porta or "Foramen of Monro."

A definition and description of the fornix will be attempted farther on; for the present, to avoid misunder-

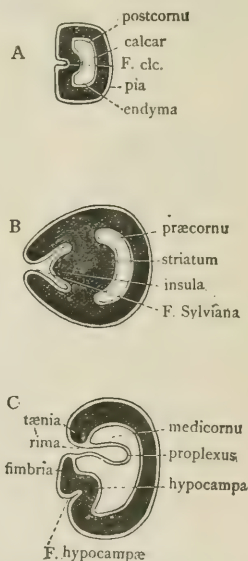


FIG. 31.—SCHEMATIC TRANSECTIONS OF THE THREE PROCELIAN CORNUA IN THE ORDER OF THEIR COMPLEXITY

- A. Into the postcornu projects a ridge (calcar or "hippocampus minor"), and on the mesal aspect of the occipital lobe is a corresponding furrow (*Fissura calcarina*).
- B. In the præcornu are an elevation, *striatum*, and an ectal furrow, *F. Sylvii*, but at the bottom of this furrow is an ectal elevation, the *insula*.
- C. The third degree of complexity is presented by the medicorua. Here the ental elevation is the *hypocampa*, "hippocampus major," and the furrow the *F. hypocampæ* or "hippocampal fissure." There is also an abrogation of the proper nervous wall along a line, the *rima*, for the admission of the proplexus, and the borders of the interruption are known, respectively, as *fimbria* and *tænia*.

standing, it may suffice to say that what is commonly called *fornix* seems to be only the result of the union of the parts

of the proccedian wall known as *hypocampa*, *fimbria*, *Columnna*, etc., which exist in each hemisphere, along the

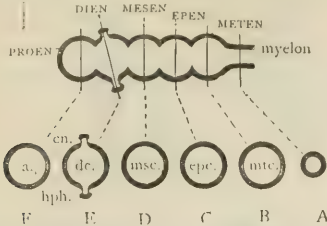


FIG. 32.—The upper figure represents a mesal hemisection of the complete series of five encephalic segments. The forms are spherical, and the parietes of uniform thickness, excepting at the attachments of the remarkably constant dorsal conarium and ventral hypophysis. The lower figures (A-F) represent transections of the several segments, including the myelon.

mesen by a thin new formation, the *Commissura fornix*. The *lyra* is simply a part of the ventral aspect of the vaulted mass thus constituted.

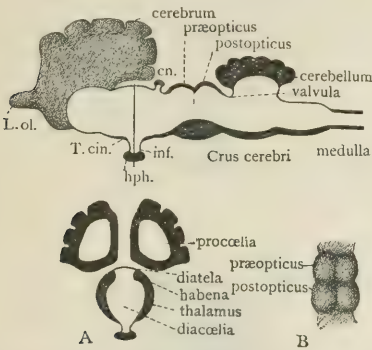


FIG. 33.—Represents the principal locations of thickening and folding of the parietes. In the upper figure, the conarium (cn.) is crowded caudad by the superposed hemisphere, and the ridge which is left at each side is the *habena*, as seen in A. B represents the dorsal aspect of the modified mesen, which in mammals presents a transverse as well as a longitudinal furrow, and hence is sometimes called *corpus quadrigeminum* instead of *corpus bigeminum*.

In the lower portion of each figure both hemispheres are represented, but in the upper only that of the right side appears. Properly, its mesal surface should be shaded and the porta should be indicated, but neither of these features is essential to the recognition of the points especially involved.

In Fig. 35 the hemispheres are connected only by the *terma* and other parts of the aulic parietes. Along the ventro-mesal margin of each hemisphere is a thickening, indicated in the upper figure by the dotted line. This thickening is continuous with the thickened dorso-cephalic margin of the porta (*Columnna fornix*).

In Fig. 36 a junction of the two hemispheres occurs along this thickened line, but the lamina by which this junction is effected (*Commissura fornix*) is very thin, much thinner and also much narrower than could be well shown upon small diagrams.

In Fig. 37 the apposed mesal surfaces of the hemispheres are united by a second new formation, the *callosum*.

As a whole, the callosum is dorsad of the *Cs. fornix*, and the caudal ends of the two are eventually, if not primarily,

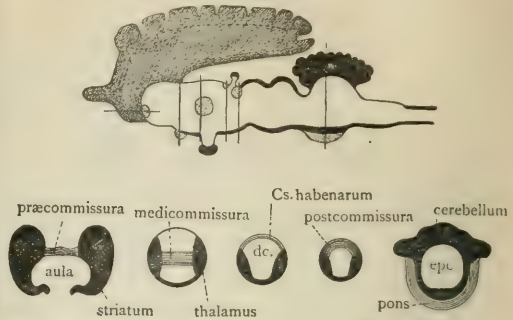


FIG. 34.—The simplest idea of the three kinds of transverse commissures is indicated in Fig. 22. In Fig. 34 an attempt is made to show them in connection with the parts which they unite. In the upper figure the dotted areas represent the cut ends of the fibers which appear as lines in the transections below. The medicommissure is made to look like the rest, although probably it is more cellular than fibrous. The commissure just cephalad of the hypophysis is the chiasma, and no transection is given at that point. The praecommissura is represented in horizontal section in order to show not only that it unites the striata (which are really but thickenings of the proccedian wall), but also that it is a differentiation of the *terma*, the cephalic boundary of the aula. The dotted line on the shaded mesal surface of the hemisphere indicates the outline of the proccelia, and its two undulations exemplify the mode of formation of certain cerebral fissures by corrugation of the entire thickness of the wall. The other elevations and depressions, like those of the cerebellum, are comparatively superficial.

continuous at the *splenium*. That part of each hemisphere wall which is thus intercepted between the callosum and

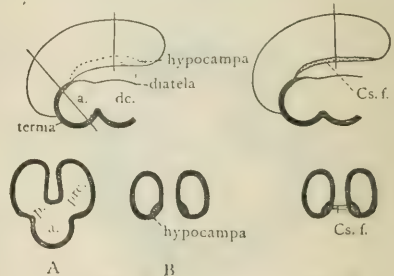


FIG. 35

FIG. 36

the *Cs. fornix* becomes (or remains) thinner than the rest, in man at least, and the two delicate laminae thus formed

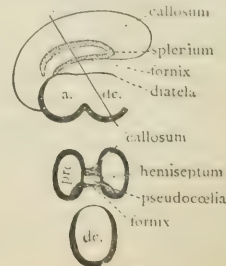


FIG. 37

constitute the *Septum lucidum*; each lamina is a *hemiseptum*, and the space between them is the pseudocœlia or "fifth ventricle."

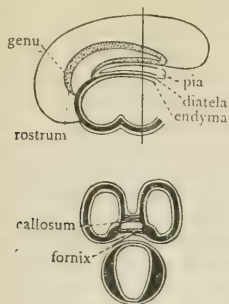


Fig. 38.

In Fig. 38 the *endyma* and *pia* are introduced; the two contiguous layers of *pia* which respectively lie ventrad of the fornix and dorsad of the thalami (*dien*) together constitute the *velum*.

In Fig. 39 the *arachnoidea* is shown bridging the interval between the hemispheres, etc., leaving a *subarachnoid space* (*sa.*) between it and the *pia* at these places.

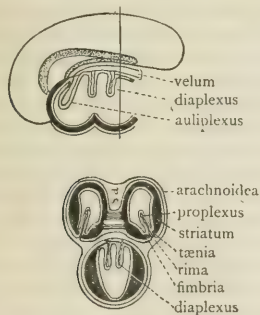


Fig. 39.

Finally, in Fig. 39 are represented the intrusions of pial prolongations constituting the *plexuses*. The line of abrogation of the proper nervous wall for the admission of the *proplexus* is the *rima*, and its borders are the *tenia* and *fimbria*.

A section showing the actual relations of the parts here represented will be given in connection with the third lecture.

MEDICAL DEGREES IN FRANCE.—During the academic year 1882-'83 six hundred and seventy-two M. D. degrees were conferred in France. Not far from three quarters of the whole number, or four hundred and sixty-five, were conferred by the Paris faculty. Montpellier comes next with sixty-nine; then follow Bordeaux with forty-six, Lyons with forty-three, Nancy with twenty-one, and Lille with twenty.—*Medical Times and Gazette*.

THE COST OF ERGOTIN.—The "*Medical Times and Gazette*" states that the ergotin prepared by Gehe & Co., of Dresden, is the most costly pharmaceutical preparation in the market, a gramme costing 200 marks, or about \$48 of our money. At this rate, an ounce would cost about \$1,492.80.

Original Communications.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.

By FORDYCE BARKER, M. D., LL. D.,
PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE.

(Concluded from page 153.)

Before leaving this part of the subject now under discussion, I will briefly allude to one other point, which strikingly illustrates the difference between puerperal fever and septicæmia. I think there can be no doubt that the majority of the profession believe that all those causes of nosocomial malaria, such as aggregation, bad ventilation, contact with septic material, etc., which have a tendency to induce septicæmia in surgical cases, have an equal tendency to develop the disease known as puerperal fever in women recently confined. But this does not prove that the diseases are identical, for I think there is abundant evidence that, while these causes are always requisite for the development of surgical septicæmia, puerperal fever may be a very epidemic when these causes are wholly wanting.*

In the early months of 1873 puerperal fever prevailed in the best parts of the city, and in that class of society possessed of abundant means and living under as good sanitary conditions as are possible in any large city, to a degree and extent here unknown for the previous twenty-five years. The deaths from this disease in the hospitals and in the wards of the city where the poor are aggregated were much fewer than in many former years. In five of the best wards of the city, in which are the residences of a great proportion of those of wealth, and few of the class of dwellings known as tenement-houses, with a population of 307,046, there were 80 deaths from puerperal fever, while in the remaining wards of the city, with a population of 605,245, there were but 63 deaths. In other words, I may say that during this period, in those wards of the city where the causes of septicæmia must have existed in the greatest abundance, the mortality was nearly one third less from puerperal fever, in proportion to the population, than in the best parts of the city, where these causes of septicæmia could have existed only in a very limited degree.

I have good cause to remember this epidemic, as the excessive work, mental strain, and loss of sleep which it brought upon me, as my medical friends know, affected my health to a degree that required nearly six years for perfect recovery. I saw ninety-five cases during this epidemic, of which nineteen were fatal. Most of the latter I believe to have been fatal in their character from the history which I received, and I only saw them once. I had three cases in my private practice, in one of which the patient died. After this, most of the ladies whom I had engaged to attend, by my advice, went out of town for their confinement, and all these had normal convalescence.

From all these considerations, I think that if all the knowledge of this disease be derived from authors who have studied it in hospitals exclusively, it will be limited and one-

* See "Puerperal Diseases," by Fordyce Barker, Appendix, p. 516.

sided, and the deductions, both as to its pathology and as to its treatment must in many instances be erroneous and unsafe. Especially must this be the case with those whose well-deserved eminence as operators compels them to be brought in frequent contact with surgical septicæmia and to witness the terrible results which this produces after the most skillful performance of such operations as laparotomy and ovariectomy. Indeed, one can hardly understand how such a surgeon, who accepts the theory and believes in the necessity of such a prophylaxis and such treatment as is insisted upon in the paper under discussion, would ever dare to enter the room of a puerperal woman.

There are many other details in this connection which I am tempted to discuss, but these will doubtless receive due attention from the speakers who will follow me. I will, therefore, content myself by expressing an opinion which will surprise many who have been carried along by the popular wave of the septic theory as the initial cause of most of the puerperal diseases. My conviction is strong, based partly on individual experience, but chiefly on a careful study of the clinical midwifery reports of private practice and all the literature of the subject in my possession—and this is very full as regards the English and French languages—that, outside of hospitals, less than two per cent. of the puerperal diseases and not half of one per cent. of the deaths after childbirth are due to septicæmia. There are no statistics of private practice which demonstrate the error of this opinion. The belief of the septicæmists that terrible dangers threaten every woman in childbirth is based wholly on theory. Because the maternal system has certain peculiarities differing from its normal condition—because the lochia are a poisonous fluid—and because there is always a certain amount of traumatic lesion in the parturient canal following parturition, every child-bearing woman incurs a most hazardous risk. This is a blunt statement of the argument and its deductions.

I do not care to summon in support of the opinion that I have just expressed any higher authority, even if it were possible to do so, than the writer of the paper which we are now discussing and from which I make the following quotations:

"And yet what are the usual results? Recovery, uniformly, I might say universally, unless some unusual occurrence manifests itself to prevent this happy consummation. Theorizing about the matter, one would suppose that the mortality resulting from such a state of things must be excessive."

"And yet the facts are these: only about one or two in every one hundred parturient women ordinarily die when properly cared for during labor, even in public hospitals."

Now, if we recall the fact that a large proportion of deaths from childbirth result from the casualties of labor, such as convulsions, rupture of uterus, hæmorrhage from placenta prævia, nervous shock, etc., it will be seen that the belief which I have expressed differs but slightly, if any, from his. I certainly find it much more agreeable to refer to our points of agreement than our points of difference.

The limit of time which, in justice to others who follow,

I have allowed myself will permit but a very few remarks on "the prophylactic measures which should be adopted in all midwifery cases, whether they occur in hospital or in private practice," as the author of the paper distinctly avows. If "she who is about to bring forth" must "be treated as one about to go through the perils of a capital operation"; if all those preparations, so definitely enumerated, which gynecological surgeons insist upon previous to an ovariectomy or a laparotomy, are necessary in ordinary labors; if the danger from child-bearing be so great that a wise and prudent obstetrician is justified in subjecting his patient to the hazardous depression of intense anxiety and fearful doubt as to results, and in surrounding her with the vivid apprehension of her family, instead of stimulating and cheering her with the great happiness of maternity and the hope of increased interest and love from her husband; if all or even a considerable part of the details mentioned are necessary "to save thousands of lives which are now lost," and to spare "thousands of desolate households the sorrow of losing their female heads"—then it seems to me evident that the State should make child-bearing a penal offense for all those families who do not have a sufficient annual income to make it possible to carry out all these requirements. Such a law could only be made effective by adopting the facetious suggestion, which appeared in the "Medical Record" of January 19th over the signature of Seth Hill, Stepney, Conn., making it compulsory for all women unable to carry out these requirements "to wear an antiseptic pad over the vulva from the inception of the catamenia until the menopause, to be non-removable without strict antiseptic precautions under the carbolic spray"; and, to secure this pad, it would be necessary that some State official should apply the lock, which, no doubt, many present have seen in the Museum de l'Hôtel de Cluny, said to have been used by the noblemen of France to prevent their wives from falling during their absence in the Crusades.

The description given of puerperal fever, true as it may be, in its outlines, of the septicæmia which gynecological surgeons are so often forced to encounter, I think, will strike obstetricians familiar with the disease in the lying-in chamber as the ideal picture of a poet, differing as much from the scientific description of trained clinical observation as the pictures of natural scenery by a Byron or a George Sand would differ from a scientific description of a mountain or a lake by Humboldt.

As to diagnosis, I can not regard the symptoms mentioned, even in their totality, as pathognomonic of septicæmia, as all of them are to be found in other puerperal affections, when there is no evidence of septic absorption, unless with the author it be assumed that all puerperal disturbances are due to this cause alone. It is made an important point by the author to determine whether "the septic disease which is developing has originated in wounds situated between the os internum uteri and the vulva, or in the endometrium, above the former point." He says that "usually the question has to be decided by the efficacy or inefficacy of frequent germicide vaginal injections in bringing down the temperature and controlling other grave symptoms."

Now, I look at this subject from an entirely different point of view, and, as I have not the time to examine in detail the treatment inculcated in the paper we are now discussing, I must be content with the expression of my convictions by a few general propositions.

In puerperal fever, as met with in private practice, we have to treat the *consequences* of some form of blood-poisoning. This may or may not be septic poisoning. In private practice, I think it generally due to some occult, possibly atmospheric, epidemic influence; in hospital patients, nosocomial malaria, often associated with septic poisoning.

No treatment which interrupts the normal physiological processes—such as the retrograde metamorphosis of involution, the fatty transformation of the component fibers of the uterus, or the cicatrization of its internal surface by the exudation of organizable lymph, and the development of a new layer of mucous membrane, or the healing of traumatic lesions—can be justified, unless positive symptoms, now well understood in science, demonstrate their necessity.

Antiseptic injections, both vaginal and intra-uterine, are of great service when the indications for their use are clearly shown by local signs or general symptoms, but they can not be recommended with safety as a routine practice on theoretical grounds, as, for obvious reasons, they may be most detrimental in retarding the cicatrization of lesions and the other processes of normal convalescence, and are otherwise sometimes dangerous. In several cases which I have seen with others, where antiseptic injections, both vaginal and intra-uterine, had been used with all the care and precautions inculcated by the author and kept up for several days, the temperature rapidly fell, the profuse and sometimes offensive vaginal discharges speedily diminished, the pulse and general condition manifestly improved after the injections were discontinued.

I will only add a few words in regard to refrigeration as a means of reducing fever in puerperal diseases. I have no question that it may be useful in some cases, but my own experience in this method of treatment has not been favorable. Many years ago I tried it in several cases in Bellevue Hospital, but I soon gave it up, as the results were less satisfactory than where other plans of treatment were pursued, and I know that this was the conviction of my house staff. Cold will effectively and usefully reduce the temperature in active inflammations and acute fevers, but in adynamic diseases and in hectic fever this must be attended with a rapid waste of tissue more dangerous than the pyrexia. In three cases which I have seen with others—two a year ago and one this winter—where the coil had been assiduously kept over the abdomen, most of the time two or three days, the conditions in each were remarkably similar. The abdomen was blanched, colorless, and not sensitive to pressure; the patients all avowed that the coil gave them great comfort, but the temperature was very high in all—in one 104.3° , and in the other two over 105° ; the pulse was very rapid and feeble, the heart's action extremely weak, with pulmonary symptoms—such as short, rapid, and shallow respiration—which caused grave apprehension that there might be latent centric pneumonia. After some discussion, I induced my friends to remove the refrigerating coil, and, in

its place, to cover the abdomen with flannel saturated with the oil of turpentine, for the purpose of stimulating vaso-motor action, restoring the capillary and equalizing the general circulation. All were taking quinine in large doses. This was greatly diminished or wholly stopped, and digitalis and ammonia in full doses were substituted. In a few hours the change in each of these cases was most remarkable; the temperature was reduced from two to three degrees, the pulse was greatly lessened in frequency and increased in force, and all pulmonary symptoms, which had caused so much anxiety, had disappeared. Two of these patients recovered and are still living. The third, who had also been treated by antiseptic vaginal and uterine injection, was apparently convalescent, when suddenly she became much worse; collapse supervened, which was found to be due to a sudden development of diphtheritic membranes which covered the mucous surface of the vulva and vagina, the result of carelessness and dirtiness of the nurse. The patient died in a few hours.

I now ask permission to refer to a matter outside of the question of the prevention and treatment of puerperal fever, but in behalf of the "truth of history." I ask any who may feel sufficient interest to turn to the 320th page of my work on the "Puerperal Diseases," where they will find on this and the following pages the subject of intra-uterine injections fully discussed. Instruments for this use, which had been devised more than fifteen years ago, were shown to the class, and explicit directions were given as to the methods and indications for these injections, differing in no essential from those we heard in this hall on the 6th of December. The lecture was delivered in the amphitheatre of Bellevue Hospital, in February, 1869, and the work in which it was printed was published in January, 1874. Then it may interest some to look at page 85 of Volume IV of the "Transactions of the American Gynecological Society," and read the papers by Dr. Edward W. Jenks, of Chicago, and Dr. James R. Chadwick, of Boston, on intra-uterine injections, and the discussion which followed.

In conclusion, I will only add that my creed to-day is fully avowed on page 476 of the book to which I have before referred, and, unless in the future I learn new facts and new arguments to change my faith, I shall "die impenitent."

After the reading of the paper, Dr. Barker said:

The subject is now open for general discussion. So many of the fellows of the Academy have signified their willingness to speak, and there are so many whom all will be anxious to hear, that I felt it to be a duty to limit my remarks in the paper just read to a very restricted time, and to content myself with the enunciation of such general principles as I believe to be important truths, without entering much into details.

But there is one point which I hope will receive attention from the speakers who are to follow. Very early in my practice I began to direct the use of vaginal antiseptic injections for the first week after labor, the antiseptic being Labarraque's solution. When I went on duty at Bellevue Hospital, now nearly thirty years since, this was made the

invariable rule in the lying-in wards. Subsequently carbolic acid was substituted, and I give a formula for its proportions in the work on "Puerperal Diseases." I have habitually directed its use in all my obstetric cases until the past two or three years.

At the time of the International Congress in London, in 1881, I happened to be seated at a dinner next Dr. Thomas Keith, of Edinburgh, and had a very interesting conversation with him as to the use of antiseptics in ovariotomy. What he said was very suggestive, and led to a good deal of subsequent reflection on my part as to the use of antiseptics in obstetrics. I recalled to mind the fact that often in my practice I had seen disturbances and interruptions of puerperal convalescence the first week after labor, and it occurred to me whether this might not be due to the carbolic acid; and the following autumn I decreased the proportion of the carbolic acid one half, and thought that my patients did better. On further reflection on the subject, I said to myself the carbolic acid, even in the larger proportions which I have formerly used, was not strong enough to destroy the micro-organisms. Is it not possible that Nature has wisely arranged to furnish the best fluid for constantly bathing the bruised and lacerated tissues of the parturient canal in the much-maligned lochia? Are not absolute rest and freedom from disturbance of these tissues much more favorable to their restoration than any washes that can be used? Since that time I have considerably surprised nurses by directing that no injections should ever be used unless specially ordered. It is scarcely necessary to say that absolute cleanliness was strongly enjoined, and that not a spot of blood, either on the bedding or on the clothing of the patient, should be found.

Dr. A. A. Smith, who frequently visits my patients when I have other engagements, during the first puerperal week, tells me that this direction was given more than two years ago. Since September, 1882, it is only in a small proportion of my obstetrical cases that I have seen any reason for ordering even vaginal injections, and Dr. Smith informs me that this is true of his own cases. We both can declare that since that, including even instrumental deliveries, we have not had a single case in our practice which during the puerperal period has given us any anxiety or required more than an ordinary attendance of one daily visit for nine days.

This may be only a happy coincidence, but it seems to me significant, and I think most present may like to hear the views of others on this new departure.

PHENIC ACID IN THE TREATMENT OF YELLOW FEVER.—In a recent number of the "Bulletin de l'Union des Sociétés françaises de New York" we find a letter addressed to the president of the *Académie des sciences*, of Paris, by Dr. de Lacaille, a French physician residing in Rio de Janeiro. The writer professes to have cured thirty-eight yellow-fever patients in succession by the use of Déclat's preparations of phenic and sulpho-phenic acids and the phenate of ammonium, using the latter in the gravest cases. He states that in the early stage of the disease it is sufficient to give the remedies by the mouth, but that the hypodermic method is necessary in those that are advanced. He contrasts these results with an experience of his own in 1851, and regrets that he did not then know of these measures.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.*

By T. GAILLARD THOMAS, M. D.

CLINICAL PROFESSOR OF DISEASES OF WOMEN IN THE COLLEGE OF PHYSICIANS
AND SURGEONS, NEW YORK.

MR. PRESIDENT AND GENTLEMEN: When quite a young lad I was present at a murder trial which made a deep impression on my mind. When the case had been presented, the attorney for the commonwealth, who was a florid and rather bombastic orator, got up and made a speech of two hours. At its close all were very anxious to hear the counsel for the prisoner, who had a reputation for great eloquence. Judge of the surprise of the audience when he arose and quietly said: "May it please your Honor, the case is closed; I rest it here. The gentleman on the other side has made so able a speech in favor of my client that I rely upon it for his acquittal." The prisoner was acquitted. I feel very much in this way with reference to the paper of Dr. Barker, to which I have just listened with feelings which I know you, who are his well-wishers, fully share with me—feelings of surprise, regret, and sorrow.

Discussions such as this can not fail to do good, however, for I am a great believer in the old Latin adage, "*ex collisione scintilla*"; and although, in view of the very grievous errors which, according to my distinguished colleague, I have brought before the profession and suggested for its adoption, I may be preferring silver to gold in deciding in favor of speech instead of silence, I feel called upon to say a few words in simple self-defense, that first law of nature.

Our honored president has been very guarded in opening his attack upon my paper, and has seemed to feel concern lest its author should take offense at his sallies. Let me assure him and you that it would take a great deal more than such a discussion as this to weaken the ties of friendship which a quarter of a century has cemented between us, or to cause me to take exception to the criticism of one whom I have often, in times past, encountered in the lists of debate, and have ever found just, magnanimous, and courteous!

But alas! gentlemen, my adversary has to-night incautiously and, I think, unwisely ventured to use against me that dangerous weapon—a two-edged sword—ridicule. Right mercilessly has he given me one edge; let him beware of the other!

As I saw him draw and flourish this weapon a few minutes ago, I experienced mingled feelings of pleasure and of pain. In a scientific discussion, more especially in a debate which directly and immediately concerns the saving of human life, which at this very moment is being deplorably sacrificed among us, ridicule, elsewhere a powerful weapon, is the poorest and most pitiful of arguments! It is the resort of the weak, not of the strong; and, as my adversary

* Being the remarks made by Dr. Thomas before the New York Academy of Medicine, February 7, 1884, on being requested to close the adjourned discussion on his paper read before the Academy, December 6, 1883, and published in the "New York Medical Journal" for December 15, 1883, p. 649.

used it just now, I said to myself, "He feels himself to be very, very weak; he totters upon his pedestal; 'tis pity that he should feel so; for otherwise that master pen which so often in times past has enchanted us would not to-night emit what carries pain to my heart and to the heart of every true friend of his in this assembly, evidences of irascibility and of irritability which are so little characteristic of his real nature; otherwise I should not be able to recognize, as all others must do, the utter want of logic, the deplorable absence of argument, the total neglect of appeal to facts, and the very conspicuous presence of signs of wounded *amour propre* which unite to form an unwholesome stream that meanders through his essay.

I shall not detain you long. I have little to say, for Dr. Barker's attack calls for no rebuttal, and demands no argument on my part. I said all that I had to say on December 6th, when the original firebrand was thrown down and picked up by the wrong end by my excellent friend. There are, however, one or two points upon which I must touch to avoid misrepresentation.

Dr. Barker declares the pathology which I have advocated to be unsustained by even the most recent researches of those whom we recognize as guides; he appears to object to the fact that I have not stuck closely to the dicta of our text-books, and hugged to my soul the tenets of a by-gone time as he has done. This is hardly fair. I strove to follow the advice of Dr. Billings when he says: "Have something to say, say it, stop when you have said it." Had I had no opinions of my own to offer you, had a practice in a large metropolis and in great hospitals taught me nothing during a period of thirty years, I should not have appeared before you. Let my adversary inform himself upon the recent views of pathologists upon this subject, and he will find that it is his views which are effete, not mine which are jejune.

So far as I can gather anything certain from his discursive paper, the pivotal idea of Dr. Barker's attack seems based upon the belief that I regard the lochial discharge as a poisonous fluid, which, by absorption, by abrasions in the genital tract, gives rise to puerperal septicæmia. I need not tell you that no such absurd idea ever obtained foothold in my brain or enunciation from my tongue. If his idea be this, he has been guilty of very superficial reading of my paper, and should not so easily have concluded that I was affected by idiocy. Look at my essay, which is now in print, and you will see, what you already appreciate must be the fact, that I stated merely that the lochial discharge was a material ready to take on those alterations which are effected by micro-organisms of bad character, which, changing its nature, render it poisonous to the abraded tissues. I believe that you will find that the pathology which I have offered to you is abreast with the views of the advanced pathologists of Germany, France, and Great Britain. As to the pathology of my adversary, Dr. John Thorburn, of Manchester, England, very justly expresses concerning it, I think, the accepted view of the profession when in a footnote to an article upon "Metria," which appears in the "British Medical Journal" for August 11, 1883, he says: "It would be inexcusable not to make some reference to the

very able papers of Dr. Napier, in the 'Obstetrical Journal' for 1880, on puerperal fever. He, along with Fordyce Barker, defends the old position of a specific puerperal fever *sui generis*. The time limit imposed by our regulations allows no opportunity of consulting step by step such arguments as he adduces. I can only say that his invaluable collection of facts produces in me an opinion diametrically opposed to his own."

My critic upbraids me for want of thoroughness and for that sketchiness of detail with reference to my description of symptoms. I will merely say in answer to this that I intentionally assumed this style, as I was not preparing a lecture for a class of medical students, and that my paper was distinctly announced to be one upon "The Prevention and Treatment of Puerperal Septicæmia," and upon nothing else. I can not but thank him for his kindness in comparing my style in this sketchy description of symptoms to that of Byron and Humboldt (I believe these were the authors with whom he compared me), but, alas! as I recall the passages to which he alluded, I am pained to confess that the similarity of style does not strike me so forcibly as it does my too partial friend.

Here let me draw the veil of pitying silence over the unfortunate allusion to the squib of Stepney and the relics of the Hôtel de Cluny! We stand to-night upon ground consecrated to science by the dignified fathers of the New York Academy of Medicine, who have now passed away! We stand face to face with the terrible mortality which marks puerperal fever among us at this very moment!

And now, gentlemen, a few words as to the "prevention and treatment of puerperal fever," which is the only legitimate subject before us for discussion this evening; the only theme which should not at the very commencement of these exercises have been rigidly ruled out as irrelevant by our president.

How difficult is it in a large body like this to keep a discussion properly directed to the points at issue! The crucial questions, Fellows of the Academy, which are before you to-night are these: 1. Are you to look upon puerperal septicæmia as a poison due to the development of micro-organisms, and are you by every means in your power to guard against the contact of these with the genitalia of the puerperal woman? 2. When the disorder is developed, is it best for you to keep your patient semi-narcotized and quininized, while the distended abdomen is covered with stupes of turpentine or poultices, and await the result, as has formerly been done; or are you to seek to counteract the septic process which has invaded the genital tract, by local applications? These are the momentous questions; the other points are non-essential ones, and, although important in some respects, sink into insignificance when compared with them.

Take, for example, the first of my suggestions as to cleansing the lying-in room and applying antiseptic solutions to its walls and floors before labor sets in. This seems to appear to some like one of the labors of Hercules, and a very valued friend of mine, one of the most eminent obstetric professors of this city, seems so firmly to keep his eyes fixed upon it as to allow it to draw his gaze away from oth-

ers which are of tenfold its value. Now, gentlemen, what is really the difficulty in doing this thing? In the cottages connected with the Woman's Hospital it is regularly done whenever a new patient comes in for laparotomy, which is, on an average, once a week; and whenever I operate in private practice, let the operation be as trivial as it may, I always insist upon its performance. A scrubber, and there are many women in New York who make such work a business, takes up the carpet and sends it to the naphtha cleaning works or replaces it by rugs; she then scrubs the floor and furniture with a solution of carbolic acid or the bichloride of mercury. Then, covering a broom with a towel, she stands upon a pair of steps, and, dipping this in a bucket, she wipes off the walls and ceiling. The whole work of cleaning a chamber occupies a few hours. Dr. Lusk has said that he has never seen any good come from scrubbing furniture with an antiseptic solution—agreed; I have never seen it do any harm, and until I do so I shall feel that it is safer to resort to it. But, I assure you, I am not particularly enthusiastic about this cleansing of the chamber, nor do I regard it as by any means essential. If any one prefers to have his patient confined in a dirty room rather than a clean one, let him do so by all means; I do not gainsay it. If I need any defense for having pressed the claims of cleanliness in this regard, let it be found in the fact that he who offers rules for a system must aim high, not low; that, aim as high as he may, many will fall below the standard, and that, if a low level be assumed, no one will go above it and take a higher.

My second suggestion for prevention has reference to complete change of clothing, and the taking of an antiseptic bath by doctor and nurse before taking charge of a lying-in woman, if they have knowingly been exposed to the effluvia of septicæmia, erysipelas, scarlet fever, typhus, or any similarly contagious affection. Will any one object to this as unnecessary or impracticable? I think not. Yesterday, at 4 P. M., I saw in Stamford a very bad case of puerperal septicæmia; this afternoon, at 3, I performed Tait's operation in a very important case which could not be delayed. I ventured to do this only under these circumstances: this morning I took a hot bath of water strongly impregnated with salt, and after it shampooed my hair and beard thoroughly with a saturated solution of boric acid, scrubbed my hands thoroughly, by means of a nail-brush, with a solution of the bichloride, 1 to 1,000, and changed every article of clothing which I had worn at the moment of exposure. The trouble was not great, nor was the process a disagreeable one. It may have done no good whatsoever, but I feel sure that it did no harm, and it certainly quieted my conscience and gave me a feeling of comfort that I could have obtained in no other way.

My third suggestion was that during labor a warm antiseptic injection should be administered to the patient by the nurse about every four hours, and that a towel wrung out of this warm solution should be laid over the vulva. Who objects to this? "If any, speak, for him have I offended." It is very soothing to the patient, and it is difficult to see how she could be injured by it.

My fourth suggestion merely relates to cleanliness of

the hands on the part of doctor and nurse. The propriety of this I will not discuss.

No one will quarrel with my fifth and sixth, which merely require the physician to attend intelligently and faithfully to the performance of the third stage of labor, and the examination for and closure of wounds about the vagina and ostium vaginæ.

I now come to the seventh suggestion—the use of vaginal injections every eight hours, beginning eight hours after delivery. The arguments which have been brought up against this practice since I read my paper have had great weight with me; I confess that I feel less firm in my convictions upon this point than I did, and that in future I shall examine the question carefully before I determine to adhere to my plan. You may ask, Why this change of opinion? My answer is that I strive to mend the fault of yesterday with wisdom of to-day.

The rest of my rules will be so certainly agreed in that I can not question the concurrence of all, even of the eminent gentleman our president, who regards my efforts as so hurtful to progress and so damaging to the health of the community to whose medical guides I have made appeal.

A few words now, before closing, upon some of the means which I have suggested as to treatment. With reference to my present views upon the use of cutaneous refrigeration for the controlling of high temperature, however produced and in the course of whatever disease occurring, I would, after a very extensive experience, say this: Were the laws of my country to prohibit a resort to this method, I would be unwilling to continue the practice of my profession, for I could not do so relinquishing what I sincerely believe to be one of the most valuable therapeutic resources at the disposal of the physician.

With regard to intra-uterine injections, I fear that I have expressed myself in such a way as to allow it to appear that I resort to them with very little provocation and upon all occasions when hyperpyrexia supervenes after childbirth. No impression could be more erroneous. No one could have striven more than I have done to keep within proper bounds the indiscriminate use of this valuable but dangerous resource. Let me illustrate my feeling with reference to this subject in the following way: I believe that the operation of trachelorrhaphy, as introduced by my friend Dr. Emmet, is one of the greatest advances which a quarter of a century has seen in gynecology. I believe that at the present moment it is doing a great deal of harm on account of its indiscriminate and too frequent performance, many seeming to believe that every woman who bears a child requires a resort to it. Does this militate against the great value of the procedure? Not at all. "*Uti sed non abuti*" might well have been written over its original description, as in olden times it was inscribed upon the case which held the lancet.

My friend Dr. Barker must here allow me to offer him a most full and sincere apology for not having accorded to him in my paper the credit which was his due in connection with the introduction of intra-uterine injections into obstetric practice. I know that he will freely forgive me when I state that the omission was due to ignorance on my

part of the facts which he has stated to-night, and not to any intentional neglect.

Dr. Mundé has expressed the opinion that I have not sufficiently guarded my readers against the dangers of intra-uterine injections. As I recall my statements I can not but feel that he is in error upon this point. I certainly strove, to the utmost of my capacity, to so depict these dangers as to put every man upon his guard concerning them.

I have not been surprised to notice, among other criticisms of the preventive measures which I have suggested, a tendency on the part of some to ignore the necessity for them, especially in private practice. That this would in all probability be done I suggested in my paper, and I came here this evening prepared to use some statistics which would invalidate this position. I shall not use those that I brought, however, but employ in their stead some which have been offered by the speakers of this evening. Dr. Hanks declares that 250 women died from puerperal septicaemia in this city last year; that is 250 to 1,000,000 inhabitants. The United States probably contains in round numbers 40,000,000 inhabitants, which would give us 10,000 deaths in one year, and in twenty years, which is about the average child-bearing time of women, 200,000 deaths. Surely this looks as if something should be done to lessen the mortality of this disease. Does the plan which I have suggested accomplish this result? Let Dr. Lusk answer. He has just told us that in Prague, before a similar plan was adopted—that is, before antiseptic midwifery was introduced—they lost five per cent. of hospital puerperæ by septicaemia; since then 1,100 women have been delivered without a single death. I hope that I am correct in my quotation of Dr. Lusk; I think that I am—no death, against fifty-five in former times!

And now methinks I hear a whisper to this effect: "These are the statistics of hospitals; the disease must be rare in private practice, for does not Dr. A. tell us that he, out of 500 cases, has had no deaths; Dr. B. that out of 1,000 he has had none; and Dr. C. that out of 1,500 he has met with only one." Patients are constantly dying from this cause in private practice, nevertheless. It is now just two months since I read my paper, and during that time I have been called to five cases of puerperal septicaemia, four of them, at least, in the higher walks of life, and all four of the most desperate character. I prefer to state with whom these patients were seen, and I feel sure that my colleagues who called upon me will appreciate my motive and pardon me for doing so. The first case I saw with Dr. Glück and Dr. Kucher; the second with Dr. Hutchison, Dr. Crane, and Dr. Paine, of Brooklyn; the third with Dr. Lyons, in which suppurative synovitis and abscesses had followed a miscarriage; the fourth I was called to by Dr. Loewenthal, but could not attend; and the fifth I saw yesterday in Stamford, with Dr. Janeway, of New York, and Dr. Phillips and Dr. Hurlburt, of the former place.

I have ventured to give the names of the practitioners with whom I saw these cases, to prove that they occur even under the most favorable circumstances as to social surroundings and medical care.

And now, gentlemen of the Academy, let me thank you for the kind and courteous attention which you have given

me: It is that attention and that courtesy which have emboldened me to detain you so long. I feel very sure that you will give full credence to two statements which I make in bidding you good-night: *First*. That I have no wish to be dogmatic and uncompromising in reference to the rules which I have suggested for the prevention and treatment of puerperal septicaemia. *Second*. That if venom has seemed to flow from my tongue it has not reached it from my heart, which has been entirely free from it; and that if I have seemed to strike too trenchant blows at the honored head of our president, I have struck purely in self-defense at one for whom I yield to no man in respect, admiration, and affectionate regard.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.*

By WILLIAM THOMPSON LUSK, M.D.,
PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN IN THE
BELLEVUE HOSPITAL MEDICAL COLLEGE, ETC.

I THINK the Academy is to be congratulated upon two such papers as that of the evening and the one of December 6th, as, in many ways, in spite of seeming antagonisms, they really in a measure supplemented each other.

While it is my desire to confine my remarks to the local treatment of puerperal fever, yet I will venture to state my faith concerning the ætiology of the disease, as in practice every man is governed by his theoretical views. I would say that, in my opinion, surgical fever and puerperal fever are not simply analogous, but are essentially one and the same process.

To maintain this definition it is, however, necessary to bear certain facts in mind. Much confusion has been occasioned by the failure to classify as distinct from puerperal fever the action on the puerperal woman of certain extraneous poisons, such as those of scarlatina, of typhoid, and malaria, which are so modified by the puerperal state as to lose some of their characteristic features, and to present many of those usually attributed to puerperal fever.

Again, certain differences in the symptoms of surgical and puerperal fever are due to differences which are purely anatomical. The entrance of poisons into the system through a clean-cut stump necessarily would be attended by phenomena somewhat different from what would be produced by the same poison when introduced through a puerperal wound, where the serous infiltration of the tissues, the wide interspaces, the dilated lymphatics, and veins—all constituting the ordinary machinery for the removal of retrograde products of the pelvic organs during childbed—are equally active in conveying deleterious as well as normal materials into the organism.

Again, it should not be forgotten that in puerperal women a special danger exists in the proximity of the peritonæum to the seat of infection.

But, even where differences in symptoms are not explicable upon anatomical grounds, we still find surgical and puer-

* Being, with additions, remarks made before the New York Academy of Medicine, February 7, 1884, in the adjourned discussion on Dr. T. Gaillard Thomas's paper.

peral fever linked together by the presence of the round bacteria. Both diseases are of septic origin. Many of the arguments against the septic nature of puerperal fever are based upon a confusion of terms and the failure to recognize the modern distinction between putrid intoxication and septicæmia proper. A decomposing fluid, containing rod-like bacteria alone, is characterized by foulness, and, injected into the veins, produces symptoms resulting from disturbances of the nerves, the blood, and the chylipoietic system; but, unless the injection be large or frequently repeated, the animal experimented upon, after a period of prostration with fever and stinking diarrhœa, recovers. This form is not inoculable, because the rod-like bacteria under no circumstances thrive and multiply in the human system, and this explains the fact that physicians have been able in some cases to pass from the dissecting-room to the lying-in chamber with their hands foul with decomposing matters, and yet not communicate puerperal fever. But the round bacteria, unlike the rod-like variety under favorable conditions which we sum up under the term "predisposition of the patient," may penetrate the tissues, enter the lymphatics, and become distributed to the parenchymatous organs and to the serous cavities, and far away from the original site of infection may form sturdy colonies which excite destructive inflammation, or interfere with the performance of function. Or, again, the round bacteria may be disseminated through the system by portions of thrombi which form in veins as a consequence of inflammation, of pressure, or of enfeebled circulation. In all cases, it is true, the general infection may not take place. If the septic micrococci are of feeble vitality, or meet with active resistance from the invaded tissues, their progress may be arrested at a short distance from the point of entry, when they give rise to circumscribed inflammations, such as pelvic cellulitis and peritonitis.

Round bacteria thrive in putrid fluids, and are commonly present in them, but they may be absent, as we have seen, and they may be active for evil where putridity is absent. The odor of the discharges from a wound is not the sole criterion of their malignity.

With regard to prophylaxis, I think too great a burden could be thrown upon the practitioner by insisting upon non-essential details. My experience does not entitle me to expect great results from washing the floors, walls, and furniture with antiseptic solutions. At least in the lying-in hospitals, where I have witnessed many epidemics of puerperal fever, there has been a time when everything was vigorously scrubbed; no pictures adorned the walls, no carpets decked the floors, and carbolic acid was used without stint, but I have never observed that these precautions exerted the slightest influence in the prevention or the stamping out of puerperal fever. The fumes of sulphurous acid have since been substituted for the old-time scrubbings with the best results, and I would strenuously recommend the modes of disinfection employed by the Board of Health in all cases where there has been previously scarlatina, diphtheria, typhoid, or erysipelas in the household. In this connection I would state that a woman ought never to be confined in the

chamber adjacent to the bath-room, as I believe that puerperal women are extremely sensitive to sewer-gas poisons.

In normal confinements the uterus contracts down upon the child during its expulsion in such a way that no air naturally finds its way into the uterine cavity. There is no evidence that decomposition ever occurs normally in the uterine cavity. In the vagina, on the contrary, all the conditions favor putrefaction. There the lochia stagnate, and there are found heat, air, and moisture, the requisites of decomposition. Putrefaction of the uterine contents in such cases is not a primary, but a secondary condition, the decomposition beginning in the vagina creeping upward only after a distinct interval into the uterine cavity. This I consider an important fact, as in practice, where labor has been normal and there has been no needless interference with its progress, if the vagina is thoroughly cleansed it is rarely necessary to carry the injection into the uterine cavity.

In cases of difficult labor, on the contrary, where the hands or instruments have been introduced into the uterus, primary intra-uterine decomposition is rendered possible, and is then especially favored by the presence of bits of placenta or decidua. In such cases, where putrid intoxication alone exists, the intra-uterine douche is often the direct means of saving our patients' lives. It will, however, be far better if the disinfection is employed, not after the symptoms of poisoning have developed, but immediately after labor. The douche is then harmless, it stimulates the uterus to contract, and is a powerful means of preventing subsequent dangers. For my own part, I prefer the fountain to the siphon syringe, because with it there is less danger of introducing air, or of forcing a passage through the Fallopian tubes.

The douche, however, is not infallible. In cases where there has been inoculation of the round bacteria, they often invade the tissues beyond the original lesion, and it is of small avail to wash out the uterus when the victorious army has advanced far away from the point of attack. Washing the arm daily after vaccination does not prevent the development of vaccinia. Washing the uterus after the pelvic tissues are infiltrated with septic microspores may cut off the re-enforcements, but does not prevent the progress of puerperal septicæmia. I would advise, therefore, not to continue the uterine douche in cases where the results of the first thorough injection furnish the evidence of its impotence.

The results of antiseptics, as I understand them, have been most surprising in the great lying-in asylums of Europe. In Vienna in my student days the mortality often reached five per cent., whereas at present, in spite of the freedom with which the hospital is thrown open to students of every race, the deaths from septic causes are barely one in two hundred. In Prague, where Seyfert for many years fought the battle for the specific origin of puerperal fever, in Professor Streng's division, of eleven hundred confinements there has been no death from puerperal fever. But in these hospitals, and everywhere, the indiscriminate use of intra-uterine injections has been invariably followed by an increased mortality. With all the blessings from their employment, with the indubitable fact that they have been

the means of saving many lives, unless the indications for their use are carefully restricted, it is to be borne in mind that they are likewise capable of adding largely to the risks of the puerperal state, and of swelling the death-roll from puerperal causes.

MIRYACHIT,

A NEWLY DESCRIBED DISEASE OF THE NERVOUS SYSTEM,

AND ITS ANALOGUES.*

By WILLIAM A. HAMMOND, M. D.,

SURGEON-GENERAL, U. S. ARMY (RETIRED LIST); PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

In a very interesting account of a journey from the Pacific Ocean through Asia to the United States, by Lieutenant B. H. Buckingham and Ensigns George C. Foulk and Walter McLean,† United States navy, I find an affection of the nervous system described which, on account of its remarkable characteristics, as well as by reason of certain known analogies, I think should be brought to the special notice of the medical profession. I quote from the work referred to the following account of this disease. The party is on the Ussuri River not far from its junction with the Amur in Eastern Siberia: "While we were walking on the bank here we observed our messmate, the captain of the general staff [of the Russian army], approach the steward of the boat suddenly, and, without any apparent reason or remark, clap his hands before his face; instantly the steward clapped his hands in the same manner, put on an angry look, and passed on. The incident was somewhat curious, as it involved a degree of familiarity with the steward hardly to have been expected. After this we observed a number of queer performances of the steward, and finally comprehended the situation. It seemed that he was afflicted with a peculiar mental or nervous disease, which forced him to imitate everything suddenly presented to his senses. Thus, when the captain slapped the paddle-box suddenly in the presence of the steward, the latter instantly gave it a similar thump; or if any noise were made suddenly, he seemed compelled against his will to imitate it instantly, and with remarkable accuracy. To annoy him, some of the passengers imitated pigs grunting, or called out absurd names; others clapped their hands and shouted, jumped, or threw their hats on the deck suddenly, and the poor steward, suddenly startled, would echo them all precisely, and sometimes several consecutively. Frequently he would expostulate, begging people not to startle him, and again would grow furiously angry, but even in the midst of his passion he would helplessly imitate some ridiculous shout or motion directed at him by his pitiless tormenters. Frequently he shut himself up in his pantry, which was without windows,

and locked the door, but even there he could be heard answering the grunts, shouts, or pounds on the bulkhead outside. He was a man of middle age, fair physique, rather intelligent in facial expression, and without the slightest indication in appearance of his disability. As we descended the bank to go on board the steamer some one gave a loud shout and threw his cap on the ground; looking about for the steward, for the shout was evidently made for his benefit, we saw him violently throw his cap, with a shout, into a chicken-coop, into which he was about to put the result of his foraging expedition, among the houses of the stanitzas.

"We afterward witnessed an incident which illustrated the extent of his disability. The captain of the steamer, running up to him, suddenly clapping his hands at the same time, accidentally slipped and fell hard on the deck; without having been touched by the captain, the steward instantly clapped his hands and shouted, and then, in powerless imitation, he too fell as hard and almost precisely in the same manner and position as the captain. In speaking of the steward's disorder, the captain of the general staff stated that it was not uncommon in Siberia; that he had seen a number of cases of it, and that it was commonest about Yakutsk, where the winter cold is extreme. Both sexes were subject to it, but men much less than women. It was known to Russians by the name of 'Miryachit.'"

So far as I am aware—and I have looked carefully through several books of travel in Siberia—no account of this curious disease has been hitherto published.

The description given by the naval officers at once, however, brings to mind the remarks made by the late Dr. George M. Beard, before the meeting of the American Neurological Association in 1880, relative to the "Jumpers" or "Jumping Frenchmen" of Maine and northern New Hampshire.*

In June, 1880, Dr. Beard visited Moosehead Lake, found the "Jumpers," and experimented with them. He ascertained that whatever order was given them was at once obeyed. Thus, one of the jumpers who was sitting in a chair with a knife in his hand was told to throw it, and he threw it quickly, so that it stuck in a beam opposite; at the same time he repeated the order to throw it with a cry of alarm not unlike that of hysteria or epilepsy. He also threw away his pipe, which he was filling with tobacco, when he was slapped upon the shoulder. Two jumpers standing near each other were told to strike, and they struck each other very forcibly. One jumper, when standing by a window, was suddenly commanded by a person on the other side of the window to jump, and he jumped up half a foot from the floor, repeating the order. When the commands are uttered in a quick, loud voice, the jumper repeats the order. When told to strike he strikes, when told to throw he throws whatever he may happen to have in his hand. Dr. Beard tried this power of repetition with the first part of the first line of Virgil's "Æneid" and the first part of the first line of Homer's "Iliad," and out-of-the-way words of the English language with which the jumper could not be familiar, and he repeated or echoed the sound of the word as

* "Journal of Nervous and Mental Diseases," vol. vii, 1880, p. 487.

* Read before the New York Neurological Society, February 5, 1884.

† "Observations upon the Korean Coast, Japanese-Korean Ports, and Siberia, made during a Journey from the Asiatic Station to the United States, through Siberia to Europe, June 3 to September 8, 1882." Published by the United States Navy Department, Washington, 1883, pp. 51.

it came to him in a quick, sharp voice, at the same time he jumped, or struck, or threw, or raised his shoulders, or made some other violent muscular motion. They could not help repeating the word or sound that came from the person that ordered them any more than they could help striking, dropping, throwing, jumping, or starting; all of these phenomena were indeed but parts of the general condition known as jumping. It was not necessary that the sound should come from a human being; any sudden or unexpected noise, as the explosion of a gun or pistol, the falling of a window, or the slamming of a door—provided it was unexpected and loud enough—would cause these jumpers to exhibit some one or all of these phenomena. One of these jumpers came very near cutting his throat while shaving, on hearing a door slam. They had been known to strike their fists against a red-hot stove, to jump into the fire and into water. They could not help striking their best friend if near them when ordered. The noise of a steam-whistle was especially obnoxious to them. One of these jumpers, when taking some bromide of sodium in a tumbler, was told to throw it, and he dashed the tumbler upon the floor. It was dangerous to startle them in any way when they had an axe or a knife in their hands. All of the jumpers agreed that it tired them to be jumped, and they dreaded it, but they were constantly annoyed by their companions.

From this description it will at once, I think, be perceived that there are striking analogies between "Miryachit" and this disorder of the "Jumping Frenchmen" of Maine. Indeed, it appears to me that, if the two affections were carefully studied, it would be found that they were identical, or that, at any rate, the phenomena of the one could readily be developed into those of the others. It is not stated that the subjects of "Miryachit" do what they are told to do. They require an example to reach their brains through the sense of sight or that of hearing, whereas the "Jumpers" do not apparently perform an act which is executed before them, but they require a command. It seems, however, that a "jumper" starts whenever any sudden noise reaches his ears.

In both classes of cases a suggestion of some kind is required, and then the act takes place independently of the will. There is another analogous condition known by the Germans as *Schlaftrunkenheit*, and to English and American neurologists as somnolentia, or sleep-drunkness. In this state an individual, on being suddenly awakened, commits some incongruous act of violence, oftentimes a murder. Sometimes this appears to be excited by a dream, but in others no such cause could be discovered.

Thus, a sentry fell asleep during his watch, and, being suddenly aroused by the officer in command, attacked the latter with his sword, and would have killed him but for the interposition of the bystanders. The result of the medical examination was that the act was involuntary, being the result of a violent confusion of mind consequent upon the sudden awaking from a profound sleep. Other cases are cited by Wharton and Stillé in their work on medical jurisprudence, by Hoffbauer, and by myself in "Sleep and its Derangements."

The following cases among others have occurred in my own experience:

A gentleman was roused one night by his wife, who heard the street-door bell ring. He got up, and, without paying attention to what she said, dragged the sheets off of the bed, tore them hurriedly into strips, and proceeded to tie the pieces together. She finally succeeded in bringing him to himself, when he said he had thought the house was on fire, and he was providing means for their escape. He did not recollect having had any dream of the kind, but was under the impression that the idea had occurred to him at the instant of his awaking.

Another was suddenly aroused from a sound sleep by the slamming of a window-shutter by the wind. He sprang instantly from his bed, and, seizing a chair that was near, hurled it with all his strength against the window. The noise of the breaking of glass fully awakened him. He explained that he imagined some one was trying to get into the room and had let his pistol fall on the floor, thereby producing the noise which had startled him.

In another case a man dreamed that he heard a voice telling him to jump out of the window. He at once arose, threw open the sash, and jumped to the ground below, fortunately only a distance of about ten feet, so that he was not injured beyond receiving a violent shock. Such a case as this appears to me to be very similar to those described by Dr. Beard in all its essential aspects.

A few years ago I had a gentleman under my charge who would attempt to execute any order given him while he was asleep by a person whispering into his ear. Thus, if told in this way to shout, he shouted as loud as he could; if ordered to get up, he at once jumped from the bed; if directed to repeat certain words, he said them, and so on.

I am not able to give any certain explanation of the phenomena of "Miryachit" or of the "Jumpers," or of certain of those cases of sleep-drunkness which seem to be of like character. But they all appear to be due to the fact that a motor impulse is excited by perceptions without the necessary concurrence of the volition of the individual to cause the discharge. They are, therefore, analogous to reflex actions, and especially to certain epileptic paroxysms due to reflex irritations. It would seem as though the nerve cells were very much in the condition of a package of dynamite or nitro-glycerin, in which a very slight impression is sufficient to effect a discharge of nerve force. They differ, however, from the epileptic paroxysm in the fact that the discharge is consonant with the perception—which is in these cases an irritation—and is hence an apparently logical act, whereas in epilepsy the discharge is more violent, is illogical, and does not cease with the cessation of the irritation.

Certainly the whole subject is of sufficient importance to demand the careful study of competent observers.

THE DANGER OF GLUTTONY.—The "Lancet" (January 5, 1884) reports two cases of death from gluttony. The first was that of a railway clerk, who went to bed apparently well on Christmas night, but died before morning. The stomach was found largely distended with undigested food, which had stopped the action of the heart. The other case was that of a negro, in whose stomach whole potatoes were found.

THE

NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*Published by
D. APPLETON & Co.Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, FEB. 16, 1884.

THE PROPOSED STATE FACULTY.

UNDER the title of "An Act to Establish the Medical Faculty of the University of the State of New York, to Regulate the Licensing of Practitioners of Physic and Surgery, and to further Regulate the Practice of Physic and Surgery," two bills were brought before the State society last week, as we have already apprised our readers. Both bills were reported by the Committee on Legislation, the one favorably, and the other unfavorably. For the sake of convenience, we shall term the bill favored by the committee the "committee's bill," and the other the "college bill," since it is understood to have emanated from some of the medical colleges.

As will have been gathered from the report of the meeting, given in our last issue, each bill had its supporters, but neither satisfied the meeting. Furthermore, so marked was the diversity of feeling that even a motion declaring it to be the sense of the meeting, in general terms, that a State licensing board was desirable, was passed only under cover of an amendment referring the whole matter to a new committee, so that it is not so plain as it might be that the meeting was really anything like unanimous in favoring legislation in the matter.

Such having been the temper of the meeting, it is manifest that no bill can meet with the cordial approval of the State society unless it differs radically from either of the two presented. To prepare a bill that will meet with such approval is the task the new committee has in hand, and that one of its members has guaranteed shall be accomplished. If the committee could ascertain the particular views held by men representing the various interests involved, including that of the community at large (an interest not to be lost sight of, as was clearly brought out in Dr. Jacobi's remarks), it would not only aid materially in shaping a bill that should meet the ends of justice, but it would go far to do away with the occasion for lengthy explanation and argument at the next meeting of the society. It is to be hoped, therefore—and, indeed, individual members of the committee have expressed themselves to that effect—that such representative men will lay their views before the profession. It seems better that they should give them public expression, in the columns of the medical journals, than lay them before the committee privately, for the former course will perhaps bring out discussion that otherwise might not be secured until the committee's action comes up before the society, at a time when there will be scant opportunity for a full interchange of opinions without neglect of the scientific work properly before the meeting. If such a discussion is entered upon, new arguments and new ways of looking at the matter will doubtless come to light, but this consideration by no means implies that the points

that were touched upon at Albany last week—those, namely, that were suggested by the two bills then brought forward—will not have to be dwelt upon still further. That our readers may consider these points in the light of the two bills, we shall try to give a brief statement of the points in which the bills differ from each other.

The committee's bill is in the main the same that was prepared by the Medical Society of the County of Erie, the full text of which we published several months since. The main points in which the college bill differs from it are the following: The college bill provides that no member of the faculty shall be or become connected with any medical school or college; the committee's bill provides only that the members of the faculty shall not be connected with a college or school that grants the degree of M. D.

The college bill leaves the constitution of the faculty wholly in the hands of the Governor; the committee's bill provides that "in the appointments made the representation of the several systems of medical practice recognized by the incorporated medical societies of this State shall be in the proportion of six, two, and one; that is to say, the system having the largest number of licensed practitioners to have six, that having the next largest to have two, and the remaining system to have one representative."

The committee's bill makes the license to practice obtainable only by passing an examination before this board; the college bill limits the necessity for this examination to those who are not "authorized by the diploma of some legally incorporated medical school or college in this State." The State faculty, however, is given authority to be present at the college examinations for the degree, to supervise and certify to the fact of those examinations (which shall be conducted in writing), and, in case of gross violation of proper methods of teaching, to recommend the Regents of the University to vacate, annul, or suspend the charter of the offending school. For unprofessional or dishonorable conduct, a license to practice may be revoked in like manner.

These points of difference between the two bills indicate the diversity of views entertained by two parties in the profession. It will be seen that they are radical, and that only a thoroughgoing renunciation of hobbies and a catholic devotion to the interests of medical education in the State will enable the new committee to bring about anything like a harmonious recommendation to the State society at its next annual meeting.

THE DISCUSSION ON PUERPERAL FEVER.

LAST week the discussion of Dr. Thomas's paper was concluded at the Academy of Medicine, and in this issue of the journal we are able to present the conclusion of Dr. Barker's paper, followed by the remarks of Dr. Lusk in the course of the discussion, and those made by Dr. Thomas in closing it; also, in a condensed form, those made by the other gentlemen who took part in the debate. From all these the reader may gather that the etiology and treatment of puerperal fever, especially in their relations to septicæmia, were thoroughly consid-

ered, and by men whose words are everywhere felt to express the highest state to which the obstetric art has reached in New York. It is to be regretted that discussions like this, enlisting men of such weight in the profession, can not oftener be arranged for the meetings of our larger societies, for they are of far greater profit to the mass of the profession than any number of off-hand discussions. Whoever will take the pains to read what was said on this occasion by the various speakers will, we think, get a much clearer idea of the real status of our knowledge of the subject, and of the disputed points connected with it, than if he were to study all the text-books on the Academy's shelves.

It is in human nature to cleave to the one side or the other in such a contest, but it is always well to inquire as to how much of the antagonism between the disputants' views is real and how much is only apparent. It is difficult to see what essential feature of Dr. Thomas's teachings there was that was radically contested, save the doctrine that puerperal fever is necessarily septæmia. Even on this point, too, the difference was perhaps practically rather one of definition than of real diversity of opinion as to substantial facts. It was well said by Dr. Lusk that one paper supplemented the other. The semblance of antagonism was enhanced, it must be confessed, by the warmth of the language employed by the two chief speakers, but, tempered as it was by the graceful terms of admiration and personal regard applied by each to the other, it should not be allowed to heighten the impression of disagreement upon the reader's mind. It seems to us, indeed, a matter for congratulation that a discussion should have been carried on with so much vehemence, involving even an appeal to the dangerous weapon, ridicule, without the slightest approach to unkind feeling; it shows the depth of the men's convictions, and it shows how the emotions may be kept down while the intellect is at its greatest strain. We are much mistaken if just such tilts do not strengthen rather than weaken our *esprit de corps*.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 12, 1884:

DISEASES.	Week ending Feb. 5.		Week ending Feb. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	1	0	1	0
Typhoid Fever.....	10	4	8	4
Scarlet Fever.....	94	12	91	15
Cerebro-spinal meningitis.....	6	6	13	9
Measles.....	39	4	62	11
Diphtheria.....	27	10	47	19

THE STATE LUNATIC ASYLUM AT UTICA.—Proceedings have been begun in the Legislature looking to an investigation of the management of the institution, the immediate occasion being a recent fatal assault upon an inmate. Some of the legislators seem a good deal excited over the matter, one gentleman having even proposed that the superintendent be suspended pending the investigation.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—The president of the faculty informs us that we were in error in stat-

ing, as we did last week, that Dr. Spitzka had resigned, although our authority for the statement was a member of the faculty. The secretary now asks us to state that the following-named gentlemen have been appointed professors: Dr. W. O. Moore, ophthalmology and otology; Dr. W. F. Flubrer, clinical surgery; and Dr. Bache McE. Emmet, gynecology.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 2, 1884, to February 9, 1884:*

BARNETT, RICHARDS, Captain and Assistant Surgeon. Granted leave of absence for six months on account of disability. Par. 8, S. O. 13, A. G. O., January 16, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending February 9, 1884:*

VAN REYKEN, W. K., Surgeon, from the U. S. S. Powhatan to the Navy Department, as Assistant to the Bureau of Medicine and Surgery, and Acting Chief of that Bureau.

HOEHLING, A. A., Surgeon, from special duty at Washington to the Powhatan.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, February 18th:* Medico-Chirurgical Society of German Physicians.

Tuesday, February 19th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Roman Medical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, February 20th: New Jersey Academy of Medicine (Newark).

Thursday, February 21st: New York Academy of Medicine. (1. The Differences in Form of the Adult Head, by Dr. J. C. Dalton. 2. An Improved Method in the Treatment of Certain Forms of Skin Disease, by Dr. P. Albert Morrow.)

Friday, February 22d: New York Clinical Society (private); New York Society of German Physicians (private); Yorkville Medical Association (private).

Saturday, February 23d: New York Medical and Surgical Society (private).

Letters to the Editor.

CARBOLIC-ACID VAGINAL INJECTIONS AND RETAINED PLACENTA.

LUMBERTOFT, WEST VIRGINIA, January 25, 1884.

To the Editor of the New York Medical Journal:

SIR: Since reading Dr. Thomas's paper on "The Prevention and Treatment of Puerperal Fever" (read before the New York Academy of Medicine, December 6, 1883), I have used the antiseptic precautions as prescribed therein in three cases of labor, with excellent results as regards puerperal fever; but what I would inquire into is the fact that in two of the three cases I met with spasmodic contractions of the os uteri and temporary retention of the placenta. The contractions were not very obstinate, and caused but little difficulty and some delay. This condition has not frequently occurred in my practice, and I therefore attributed it to the use of the carbolic-acid solution. Do you know of a similar experience?

Yours truly,

A. LAUTZ HUPP, M. D.

TINCTURE OF IODINE IN PAPULAR ECZEMA.

INDIANAPOLIS, February 4, 1884.

To the Editor of the New York Medical Journal:

SIR: Physicians occasionally have excessive annoyance from intractable cases of lichen agrius. In a recent case, started by two doses of morphine acting on an idiosyncrasy, where all soothing ointments, lotions, and internal treatment failed, I painted the aggregations of papules with Churchill's tincture of iodine, putting on three coats, well dried in each time. Two would probably have done, for it blistered the whole surface. But in five days the cuticle peeled, the skin was left sound, and all the outlying untouched eruption had entirely disappeared. The cure was complete. Hoping the suggestion may be so made public as to help some other worried physician,

I am yours,

L. D. WATERMAN, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 7, 1884.

THE PRESIDENT, FORDYCE BARKER, M. D., LL. D., in the chair.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.—

The adjourned discussion on Dr. T. Gaillard Thomas's paper on this subject, published in our issue of December 15, 1883, was opened with a paper by the president, which will be found on page 151.

Dr. W. M. CHAMBERLAIN did not propose to enter into the general discussion of this subject, or of either of the papers which had been read, but would like to notice some remarks made at the first discussion upon the glass tube, mentioned by Dr. Thomas, and devised some years since by himself for washing out the septic puerperal uterus. Dr. Thomas had stated that he had found occasion to make some modifications in the instrument, namely, to bring the openings nearer together at the uterine end, and to make an opening at the extreme end. The first of these Dr. Chamberlain had long since done, but about the propriety of the second he had still some doubt. Another gentleman had criticised the tube as too large, and this suggested a point of much diagnostic value, as it seemed to him, in determining in what cases intra-uterine injections should be employed, and when they should be omitted, or, if employed, suspended.

In every autopsy of a woman dead of puerperal fever which Dr. Chamberlain had seen, he had found the uterus large, soft, and flaccid, and in every case seen during life, since he became critical on this point, the same condition had existed.

There were different grades of septicæmia. For instance, there were those that followed after slight breaks in the mucous membranes of the genital passages, a little tear of the cervix, vagina, or perineum; marked by a gradual rise of temperature, day by day, until, a week or more after delivery, the patient might pass into a critical condition. This was the analogue of surgical fever, and was to be distinguished from the explosive form, which was generally seen within forty-eight or seventy-two hours after delivery, ushered in by a sharp chill, lochial fetor, rapid rise of temperature, restlessness, anxiety, and prostration.

When this existed, so far as he knew, it always suspended the process of involution; the uterus became relaxed, the dis-

charges accumulated in it and were partially retained, and the womb became a hot-bed where microbes fructified in profusion, or the virus of putridity fermented unrestrained.

These were the cases, he believed, which required antiseptic irrigation, and in these the os was so patulous and so soft that a large tube would pass readily, and would give a leverage to lift the soft anterior lip, leaving beneath it a space for the exit of the injected fluid. In such cases and in such tissues a large bearing surface was safer, even as a large sound was safer than a small one in a soft urethra, while, if the uterus was itself thus open, there was reason to believe that its tubes and sinuses might also be patulous and so liable to be entered or injected by a small tube, particularly if it were open at the end.

The remarkable studies of Dr. Garrigues had shown us that the ordinary lochial discharge in a normal delivery was not noxious if access of a ferment or a contagium from without were carefully excluded.

To Dr. Hunter's objection—that in his (Dr. Chamberlain's) tube, as first made, the antiseptic fluid escaped into the vagina before reaching the uterus—he could only say that one very narrow hole could not empty a large tube rapidly, and that, clinically, he had had the best results from its use.

He would repeat that he found no occasion for irrigating a uterus in which involution was going on at or about the normal rate, for such a uterus did not contain the septic material to be washed away. In some, at least, of the cases in which the injections had seemed to do harm, it was to be ascribed to the failure to make this distinction.

Dr. H. T. HANKS read a statement of his views, in substantial agreement with those expressed by Dr. Thomas, with the exception that in many cases he thought it unnecessary to resort to all the details of the antiseptic treatment. For example, he would not use ante-partum vaginal injections, nor would he apply the carbolyzed napkin. After labor, however, he always used vaginal injections, and believed them to be necessary.

Dr. WILLIAM T. LUSK was the next speaker. [Dr. Lusk's remarks will be found on page 189.]

Dr. PAUL F. MUNDÉ had listened with much pleasure and interest to Dr. Thomas's paper and to the discussion, but he had felt at a loss as to what to say himself. Since he began the practice of obstetrics, about eighteen years ago, he had seen a number of cases of puerperal fever in hospital and private practice, and it had become his custom to treat the disease locally—just as a wound which gave rise to septic infection would be treated in any other part of the body—and he had to confess his conviction that puerperal fever was, properly speaking, puerperal septicæmia; yet he would qualify this statement somewhat. Certainly, when he was called to a case in which he found an offensive discharge from the uterine cavity, with rise of temperature, preceded or not by a chill, he felt it his duty to wash out the cavity of the uterus, and, if he failed to do this, he felt that he had failed in his duty to himself and to his patient. But he had seen cases in which, in the entire absence of evidence of infection of the uterus or of the parametrium, he could not help feeling that the condition was something different from what we found in cases of septic infection, and that there were instances where we could not exactly trace the source of the trouble to septic infection. In short, he was obliged to subscribe to the views of the honored president in so far as to believe that there were some forms of puerperal fever which we could not call puerperal septicæmia. What the nature of the poison was in these exceptional forms of puerperal fever he could not say. He saw no reason why there might not be two forms of fever in the puerperal woman: one being what was known as puerperal septicæmia, and the other a zymotic, infectious disease—puerperal fever proper. At any rate, when-

ever he had a case of fever during the puerperal state, with offensive lochia, he took the risk of washing out the uterus, and, even if it were not necessary, he felt that, if properly done, it would probably do no harm.

With regard to prophylactic vaginal injections, much had been said for and against them. He himself had employed them regularly, but he must admit that the objections that had been brought forward against them might have some foundation. Probably one of the chief reasons why he used them was that the nurse and the patient commonly thought that all had not been done that should have been done if they were neglected, and would surely impute anything that might happen to their omission. He objected to the use of the Davidson syringe for either vaginal or uterine injections; cases had been reported in which liquid or air had been forced by it into the uterine sinuses, resulting in death, and he had seen one case of dangerous shock from an involuntary injection of the uterus by the nurse on the ninth day, while giving a vaginal injection with this syringe. He always used a fountain syringe, as Dr. Thomas had recommended in his paper, and he thought its advantages should be still more emphasized. The mere absence of discharge from the uterus did not contraindicate the injections; indeed, it might be a special reason for employing them. This was illustrated in a case in which the discharge had ceased simply because the uterus had become anteverted, and the uterine cavity closed in consequence. A chill took place, and the temperature rose to 105° F., but these symptoms were relieved at once by straightening the uterus by bimanual manipulation and washing out its cavity. He doubted the advantage of a terminal opening in the Chamberlain tube. He agreed with Dr. Lusk that, when the temperature remained high in spite of the injections, the "victorious army" had probably gone on into the general system, and our washings simply brought away the rear guard, and were liable to do more harm than good if continued.

Dr. THOMAS then closed the discussion with the remarks which will be found on page 186.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 14, 1883.

THE BACILLUS TUBERCULOSIS AND THE ETIOLOGY OF TUBERCULOSIS. IS CONSUMPTION CONTAGIOUS?—Dr. H. F. FORMAD read a second communication with this title, as follows:

General Consideration.—A little over a year ago* I had the honor of presenting for your consideration some anatomical points in refutation of the etiological relations of the *Bacillus tuberculosis*. At that time I announced some original observations regarding the histology of scrofulous tissue, tending to place the question of heredity in tuberculous disease upon an anatomical basis. These peculiarities of scrofulous tissues I submitted as elucidating the etiology of tuberculosis, showing that the peculiar histological condition of the individual, under the influence of simple irritants, and not the character of the irritant, is responsible for tubercular inflammation. It gives me pleasure to state that these observations have since been confirmed by several competent histologists, whose articles on this subject will soon appear in print; besides which, a general interest has been manifested by favorable comments both in America and abroad. Shortly before the publication of these observations, Koch, of Berlin, had brought forward the discovery of

the now famous bacillus tuberculosis, affirming it to be the sole cause of pulmonary phthisis and other forms of tubercular disease, and claiming for it, besides exclusive pathogenetic properties, special morphological and chemical characteristics. In my first paper I denied some of these propositions upon grounds of personal investigation, and subsequently Koch's researches were also severely criticised by a number of other observers.

As interesting and valuable as the discovery of Koch is, from a biological standpoint, its practical value is, in my opinion, decidedly over-estimated, and has not nearly the significance for medical science which the enthusiastic followers of Koch ascribe to it. The influence of the discovery was, however, great in strengthening the traditional and unwarranted belief in the contagiousness of phthisis, as held by a small part of the profession and community. On the other hand, this belief led to the popularity of the discovery. In this respect the bacillus theory has perhaps been harmful, and, taking the consequences into consideration, we should not accept such a theory without the closest scrutiny.

Two practical benefits may accrue from this discovery. The first is that the fear of the effects of the bacillus may induce greater cleanliness in hospital management and enforce improvement in hygienic matters in general. It is doubtful whether the removal and prompt destruction of the sputum would have any influence in checking the spread of phthisis, as the disease is found as often, if not oftener, in the clean palaces of the wealthy as in the unclean huts of the poor. The second benefit resulting from the bacillus theory may be that physicians may become induced to make more use of the microscope in diagnosis; yet, in this respect, the general use of the microscope is hardly practicable on account of the thorough technical experience required.

To-day, while the bacillus is acknowledged as a common morphological concomitant of tubercle, pathogenetic properties are denied it by the best pathologists and clinicians, on account of a want of sufficient confirmation of the evidence thus far offered.

The followers of Koch's theory are, however, numerous, but they are recruited largely from the ranks of clinical teachers, book-writers, and others possessing no opportunities for personal investigation.

It may be well to state that, upon my visit to Koch last summer, made with the purpose of doing justice to this important question, I was gratified in many respects. I found Koch an earnest and conscientious worker, and not so dogmatic and extreme in his views as would appear from his writings; nor is he so self-satisfied and so rash to jump at conclusions as some of his followers are. Koch has the co-operation of an excellent staff of assistants, all able mycologists; but it was a matter of surprise to me that there was not a single competent pathologist connected with Koch's laboratory; and such services are evidently much needed to give to the observations made there the proper interpretation from a biological and anatomical standpoint. I was also pleased to learn in Berlin that the discovery of the bacillus was exaggerated, not so much by Koch himself as by the Imperial Board of Health, which employs him, and by his over-zealous followers in the profession. There is strong evidence, however, that Koch's investigations are biased by the determination to find for each specific disease a specific fungus.

Following out the various phases in the study of tuberculosis, I am sorry to see that the entire subject is now being considered from a purely etiological basis with reference to bacteria, while the study of the anatomical and biological relations is wholly neglected.

I admire the beautiful bacteridian discoveries of Klebs, and particularly those of Koch, in connection with the etiology of

* "Studies from the Pathological Laboratory of the University of Pennsylvania," xi; "The Bacillus Tuberculosis and some Anatomical Points which suggest the Refutation of its Etiological Relation with Tuberculosis," by H. F. Formad. Read before this society, October 18, 1882.

tuberculosis. The accomplishment of these results is a triumph for psychology and scientific botany; but these studies are much too one-sided to have an application to scientific medicine. The bacillus is there! It is concomitant with most tubercular lesions. It is diagnostic of tuberculous change. It is, on account of its irritant properties, one of the causes of tuberculosis. But this forms no reason for asserting that tuberculosis should be considered a contagious disease, without further investigation and proof. A contagious disease can have only one cause. I can not agree with those who define the predisposition to phthisis as being a condition of the organism which offers a favorable soil for the tubercle bacillus. Nor can I believe that inheritance is explained by subsequent infection from cohabitation; e. g., that children become scrofulous by living with consumptive parents.

The latest fruits of the bacillus studies have even inspired Baumgarten (*"Centralblatt. f. d. med. Wissensch."*, Aug. 4, 1883) and several others to come to the conclusion, in reference to the hereditary nature of tuberculosis, that the bacillus is transmitted in its larval state from mother to fetus in intra-uterine life! One would think, however, that one of the most wonderful effects of the tubercle bacillus was manifested by the change it produced in the direction of the reasoning of some of our pathological and clinical investigators both at home and abroad.

Some of the younger pathologists are affected by a regular fanaticism for bacterian studies in tuberculosis. These studies now take the place of their former excellent pathologico-anatomical studies. Consideration is no longer given to the tissue changes, or the nidus, which invites the bacteria and nourishes them. In fact, Koch's followers, in their enthusiasm, exaggerate matters, and to Koch's own amusement, go farther in their bacillus speculations than he himself thinks justifiable. It is really painful to read how some of the younger German pathologists, and a few of the prominent English surgeons, under the influence of the bacillus craze, will make, in their publications, assertions entirely unwarrantable. They describe, for instance, with the greatest ingenuity and exquisite minuteness, how "one or more bacilli" will produce certain histological changes in the lungs or in the peritonæum, designating the exact route to the same; how the different cells, the lymphatics, and the blood-vessels are affected; how the bacilli convert one variety of cells into another; how they manufacture giant cells and cheesy material; how acute and chronic phthisis are produced by the bacilli, and the quantity necessary for each; how tubercles develop only and exactly in those places where the bacillus becomes lodged; how, if bacilli alone are inhaled, miliary tubercles form, and how, if the bacillus is accompanied by some other irritants, a broncho-pneumonia will ensue.

All these statements are made by scientific medical men and pathologists, and offered as broad facts, in full earnest! I only have to say that here evidently observation is replaced by imagination and speculation; and all this is done for the sake of the convenience in explaining a disease by pretty hypotheses.

The only men who attempted to repeat Koch's experiments, besides the work done in the pathological laboratory of the University of Pennsylvania, were Spina (*"Studien über Tuberculose,"* Wien, 1883) and Watson Cheyne. Of the latter two scientists, Spina came to results entirely different from those of Koch, and they disprove beyond doubt some parts of Koch's hypothesis. From an analytical and critical point of view, Spina's studies of tuberculosis are excellent, but the technical part of his investigation is deficient, and hence not satisfactory. Watson Cheyne, to whom the British Association for Advancement of Science by Research had intrusted the investigation of tuberculosis, and the testing of Koch's researches, did not do

justice to his mission. From Cheyne's report (*"The Practitioner,"* April, 1883) it is seen that he made no earnest attempt to study the nature of tuberculosis, because all he did was to study and experiment with bacteria met with in tuberculous lesions. He went to see some of the different mycologists, consulting only believers in the germ theory; obtained some French and German bacteridial material, and, after testing the same, he reports with great emphasis that Koch's bacilli are a more genuine tubercular virus than Klebs's or Toussaint's micrococci. He did not inquire, nor did he care, whether tuberculosis might have any other cause! He simply imitated some of Koch's experiments with the bacillus material on rabbits and guinea-pigs (only), and obtained, of course, the same results. Furthermore, he made some control experiments, which, as I will show, pass for naught, as they are much more deficient than those of Koch.

There are a number of excellent studies in reference to the occurrence of bacilli in the sputum and in tuberculous tissues; but the main part of Koch's hypothesis—I, e., the etiological relation of these bacilli to tubercular disease—remains still unconfirmed.

My own researches on tuberculosis were made from a standpoint different from that of Koch, and they were undertaken five years ago, being carried on continuously since that time by myself and assistants. My object was to investigate scientifically the natural history of the disease, without being influenced by any preconceived views. While due attention was paid to external agencies in the production of tuberculosis, the part played by the animal or human organism itself, the behavior of its component cells, and the primary changes in the tissues, were not lost sight of. I may state that I was fortunate enough to be able to utilize the material of over four hundred cases of tubercular disease from the autopsy-table, including a number of cases studied in the pathological institutes in Europe at various times.

My present research on tuberculosis with special reference to the bacillus question was carried on during the last year and a half under the auspices of the Provost of the University of Pennsylvania, Dr. William Pepper. This communication should not be considered a report on my investigations, as these are not yet concluded; but a detailed report of these investigations will be made next summer. Some of the positive results achieved will, however, be referred to in the present paper; otherwise it merely embodies a general critical survey of the question of the etiology of tuberculosis, based upon a careful perusal of the literature of the subject and upon personal observation.

I may state at the outset that, while the results of my observations force me to-day to make some concessions to Koch, namely, that his bacillus, on account of its irritative properties, can produce tuberculosis under certain conditions, I am firmer than ever in my former conclusions, from the results of repeated observations, that tuberculosis may arise from other causes. The bacillus may be one of the causes, conditionally, but it is not the cause. The question of predisposition stands in the way of the acceptance of the bacillus theory. Furthermore, I will try to show that tuberculosis is not a contagious disease, and it is particularly in reference to this that I am glad to bring the present subject before the society, desiring to profit by the discussion which is to follow as a result of the experience and the clinical observation of the individual members of the society.

The question of the contagiousness of phthisis is one of supreme importance, not only from its scientific, but also from its social aspects.

For convenience in treating the subject of the etiology of tuberculosis, I shall speak of it under the following headings:

1. The definition, the anatomical character, and the etiology of tubercular lesions, including pulmonary phthisis.
2. The predisposition; the predisposing conditions; scrofulosis.
3. Tuberculosis without predisposition, due to inflammation of serous membranes.
4. Question of contagiousness; clinical aspect.
5. The bacillus tuberculosis.
6. Experiments—*pro* and *contra*; traumatic tuberculosis.

Conclusions.

All these considerations will have to be, of necessity, very brief.

The Definition, the Anatomical Character, and the Etiology of Tubercular Lesions, including Pulmonary Phthisis.—No definite understanding concerning a disease can be arrived at unless some fixed conception of the anatomical characters and various expressions of the lesions of that disease is formed. Thus, as regards the question of tuberculosis and pulmonary phthisis, the matter would be much simpler if a general understanding could be arrived at as to the definition of tuberculosis and phthisis in their different anatomical manifestations. The pivot of the question is, what to call a tubercle, or a tubercular lesion.

The traditional conception of a tubercle being a miliary node, the belief is that nothing is tuberculosis unless expressed by nodes, and that everything is tuberculosis that appears to the eye as containing nodes. These misconceptions are what bring the confusion and prevent the settlement of the question of tuberculosis, both at the post-mortem table and in the hands of the experimenter. One of the results of this confusion is that some clinicians divide pulmonary phthisis into catarrhal, cheesy, fibroid, and tubercular proper, because they do not see tubercle nodules in some of these forms of phthisis. They seem not to be aware of the fact that miliary tubercles do not belong necessarily to the picture of pulmonary phthisis; and, on the other hand, that those nodes which occasionally appear as miliary tubercles are not miliary tubercles at all, but are only miliary foci of broncho-pneumonia, due to aspiration, as will be explained later. Miliary tubercles, if at all present, usually form a part of a general disease—a tuberculosis of the whole body. In rare instances, when the miliary eruption takes its departure from the lung, the miliary nodules may be limited to the lung.

A more serious matter is the mistake that experimenters make of interpreting as tubercles the so-called inhalation tuberculosis, artificially produced in animals by means of a spray with tuberculous and other matter. The nodules produced in the lung under these circumstances are not miliary tubercles—in fact, no tubercles at all. They are simply miliary broncho-pneumonic foci, limited to those terminal collections of air-vesicles called acini, in which some of the inhaled irritative material becomes lodged. The natural round boundaries of these acini correspond exactly to the usual size of miliary tubercles, and appear as such even under the microscope, although filled merely with an unorganized inflammatory exudate. The uniform distribution of these foci is due to the fact that the inhaled irritating particles are distributed only to individual, and the most accessible, bronchioles and acini, thus simulating a true miliary tuberculosis of the lung. Similar broncho-pneumonic foci occur in the human lung from self-aspiration of tuberculous material from a primary focus to some other portion of the lung or throughout the whole lung. This was proved long ago, but the inhalation experimenters appear not to be aware of that fact. Careful personal observations and experiments, to be recorded in my forthcoming report, have convinced me that such inhalation experiments prove nothing, either for or against the contagiousness of tuberculosis, in connection with which they have been brought

forward as the strongest affirmative proofs. Furthermore, it must also be remembered that the so-called experimental inhalation tubercles, as a rule, remain local.

On the other hand, miliary nodes or tubercles are met with, not only in tubercular lesions, but also in a variety of similar and dissimilar lesions, such as pearl disease, or bovine tuberculosis, lupus, leprosy, glanders, actinomycosis, chancre and gummata, cancer, typhoid infiltration, lymphomatous and leukæmic lesions. All these lesions, even cancer ("miliary carcinoma"), are able to give rise to exquisite miliary disseminations or eruptions, although these are most frequently observed in tuberculosis. We already recognize leprous, lupous, glanderous, syphilitic, and other tubercles, in contradistinction to tuberculous or scrofulous tubercles.

To these nodular formations may be added a variety of minute inflammatory foci of granulation tissue, organized around minute foreign bodies introduced experimentally into various tissues; also, "false tubercles," such as mere unorganized collections of lymphoid cells, held together by some fibrin or by some artificial or natural round boundaries, such as is the case with the "inhalation tubercles" referred to; and further, also, the eruption and follicular enlargements in the skin and mucous membranes.

The question now arises, how to distinguish between these various kinds of nodules, apart from their clinical features. They may all undergo a cheesy or a fibrous change, may calcify, and may contain giant cells. In all, bacilli may be found if a cheesy change occurs, or tends to occur, save in cancer and in leukæmic formation. Without desiring to appear skeptical, I must say, however, that it takes the skill of a Koch to differentiate sometimes the bacilli met with in the various kinds of nodes, even after applying all micro-chemical tests.

The true tuberculous tubercles occasionally do not show any bacilli whatever, as I will prove from personal observation and from the reliable testimony of others. It will also be shown that the only test now left for determining the pathogenic peculiarity of tubercle—namely, the asserted exclusive property to produce tuberculosis—is conditional and uncertain, since substances not tuberculous may, under similar conditions, have the same effect. Therefore it is impossible to define tuberculosis, either by its anatomical peculiarity or by the pathogenic property of its nodes.

Another important point in the natural history of tuberculosis is the cheesy degeneration of its products; but here again we are surrounded by difficulty if we take only the cheesy product into consideration, because all the lesions mentioned before as being characterized by, and as being capable of, nodular eruptions, have the tendency to undergo cheesy change. Besides this, simple inflammatory products have been observed to undergo a similar change, as is exemplified by that form of cheesy hepatization sometimes following croupous pneumonia, and also by certain forms of rapid necrotic changes, such as occur in acute septic inflammations, designated lately by the name of coagulation necrosis. It must, however, be remembered that the total absence of cheesy masses in the bodies of tuberculous subjects has been observed. To tell tuberculosis from allied lesions is only possible after a consideration of the soil in which it develops, and the location of the products, together with the clinical and anatomical manifestations.

What is the origin of tubercle nodules? The primary occurrence of miliary tubercle nodes is, to my mind, very questionable. I have never seen them occur without the co-existence of diffuse granulation tubercle. This granulation tubercle is recognized by all as being a simple inflammatory granulation tissue, characterized by cells somewhat larger than ordinary lymphoid cells, containing usually giant cells, but undergoing

very readily cheesy change on account of its deficiency in blood-vessels. This tissue is regarded by most pathologists as secondary to milary tubercles; but I think, after careful observation, that the reverse is the case; because I have never seen upon the post-mortem table, or in animals, *primary* milary nodes without the granulation tissue, while the granulation-tubercle tissue does exist very frequently without the nodes. Moreover, *primary milary tuberculosis* is unknown.

That tubercle is primarily a simple granulation tissue of inflammatory origin has been proved experimentally. E. Ziegler ("Centr. bl. f. d. med. Wissensch.," 1874, No. II) made the following interesting experiment: He inserted below the skin or into the peritonæum of animals a number of pairs of glass covers, each pair glued together in such a manner that between them there existed an interspace just large enough to allow the entrance of white blood corpuscles; and these corpuscles, not being severed from the body of the animal, then formed a tissue between these plates of glass, which, upon removal after various periods, could be readily examined under the microscope, and the conditions of tissue formation traced. Under these circumstances it was observed that, whenever blood-vessels had developed in the new-formed tissue between the glass plates, an organization of the cells into a perfect connective tissue took place; but, when the formation of blood-vessels had failed to occur, a tissue simulating tubercle tissue was formed, made up of epithelioid and giant cells, and cheesy changes had occurred. Ziegler very properly declared the latter product to be tubercle tissue. I have had, and have at present, ample opportunity to corroborate the accuracy of these observations. Ziegler's experiments were repeated in the pathological laboratory of the University of Pennsylvania by Hammer, and at present are being carried on by Woodnut. By these experiments, made, with slight modification, after the method of Ziegler, under varying conditions and upon various animals, it was shown that the granulation tissue gradually gave origin to tubercle nodules. Furthermore, these experiments showed that the tubercle nodes and cheesy changes ensued without the action of bacilli, as the latter were found not to be present when proper care was taken, during the execution of the experiment, to exclude them.

From the examination of tubercular tissue from various sources, I may say that I have seldom succeeded in finding tubercle bacilli in newly formed tubercular tissue made up of small lymphoid cells. In older tubercular tissue, made up of opaque epithelioid cells and giant cells with a nodular arrangement, particularly when this tissue is undergoing necrotic change, bacilli are quite common, except in some forms of tubercles of serous membranes, to be referred to later. Tubercle tissue that has undergone a complete cheesy change contains the greatest number of bacilli. Cheesy matter of any source is a dead substance, and it is usually inhabited by bacilli, if these get access to it, while other bacteria are scarce on this nidus.

Examination of materials from the autopsy-table shows that tubercle expresses itself in various manners. Primarily, tubercle occurs as a mere infiltration of lymphoid cells in the adventitia of blood-vessels, or as small nodular masses of lymphoid infiltration around blood-vessels or ducts of any kind; or tubercle tissue may organize within blood-vessels and various ducts. Sometimes tubercle appears as a diffuse lymphoid infiltration, extending over a larger area, showing a greater or less tendency toward the formation of nodes and cheesy or fibroid change, as in the lungs. Tubercle tissue may form masses of the size of a hen's egg, particularly in the brain and serous membranes. In the lungs, in racemose glands, and in mucous membranes, catarrhal changes always follow the tubercle infiltration. On serous surfaces primary tubercles appear often as flat or nodulated patches of various sizes (in the peritonæum), or as fungoid vege-

tations (in synovial cavities), or even as large plastic masses (in the omentum). In the skin and mucous membranes, tubercles produce eruptions, ulcers, or nodular indurations; in bones, caries, with abscess formation in surrounding parts (cold abscesses). Fibroid capsules, made up of connective tissue, due to reactive inflammation, inclose often smaller or larger tubercular masses, especially if these have undergone cheesy change.

Primary tubercle manifests itself quite variously in different animals. In guinea-pigs and rabbits it appears mainly as small cellular infiltrates; in dogs it often undergoes a fibroid change; in goats, and especially in cattle, tubercle often forms large nodular, sometimes pedunculated, masses which often calcify; * in birds it forms, preferably in the liver, large, round mulberry masses, which, on section, appear sometimes as horny radiating structures.

Secondary tubercle presents an aspect entirely different from primary tubercle, and it manifests itself in nearly all instances in but one form, namely, as a fine milary eruption representing those well-known gray, semi-transparent nodules, of the size of a millet-seed, called milary tubercles. These seem to lie in the perivascular lymph-spaces, and are probably distributed throughout the body mainly by means of these lymph-channels of the blood-vessel walls. Tubercles do not occur in avascular tissues. There is, however, a second form of embolic or metastatic tuberculosis, which evidently distributes itself by the blood-current proper, and it appears in the form of conical masses or round nodes, which may reach the size of a walnut and are located usually at the bifurcation of arteries. No mention of this form of tubercle is made in text-books, although upon the post-mortem table it is a very common occurrence. Especially is it seen in the lung and, more rarely, in the spleen and liver.

Taking into consideration the enormous frequency of local tubercular lesions (counting pulmonary phthisis in this category), the occurrence of secondary or true milary tuberculosis must be considered rare. A tuberculosis affecting the lining of even the whole peritoneal cavity, including its lymphatic glands, or that of the pleural sacs, or that involving one or both lungs, must, when occurring thus in but one locality, be considered a local tuberculosis. In such instances the tubercle spreads by continuity of structure.

It is a fact, established by Virchow, that tuberculosis is at first a local disease, and only becomes generalized secondarily. This generalization does not affect the blood, as in infectious diseases, but it takes place simply as an embolic process, as in some tumors. Local tuberculosis in external organs and accessible lymph-glands is often a harmless affection. It is strongly related to primary tumors. Complete early removal of local tubercular lesions is practiced successfully in Europe. Volkmann and others have removed, for instance, lymphatic glands, testes, and joints affected with fungoid synovitis, with the object of preventing secondary tuberculosis, and have thus prevented a general milary tuberculosis.

Nor should a gloomy prognosis be given in early phthisis. It is astonishing what a large number of healed cavities and cicatrices in the apices of lungs are found on the post-mortem table, indicating the healing of phthisis in persons who long subsequently died from some other causes in later life.

We have seen that tuberculosis manifests itself quite differently as to structure, appearance, distribution, and termination, in the various animals, and even differently in the various organs

* I have met with, on the autopsy-table of the Philadelphia Hospital, two cases of tuberculosis in man that were identical in every respect with bovine tuberculosis. Dr. Creighton, of Cambridge, England, describes a number of cases from his own observation and collected from literature. "Bovine Tuberculosis," London, 1881.

of one individual. Our studies have shown that these variations in the expression of tuberculosis depend upon the structural peculiarities of the various kinds of animals, and sometimes even upon the difference of the structure in animals of the same species. We have also seen that even in human beings tubercle tissue may manifest itself in various forms. In some individuals it develops rapidly, and spreads over large areas, becoming generalized and undergoing speedy cheesy change; in other individuals it develops slowly, fibroid change predominating; and in others the tuberculous product may calcify. In most individuals tubercular lesions may remain entirely local.

It is well known from clinical experience that the general condition of the organism has very much to do with the healing of a local tuberculosis. A local tuberculous inflammation may heal or become arrested in its progress if the patient "gets strong," or it becomes more developed and aggravated if his general health "runs down." Observation has further shown that any simple non-specific wound in a weak, ill-nourished individual may fail to heal, becoming unamenable to treatment, and probably assuming a tubercular character.

In some animals spontaneous tuberculosis is unknown, and, while some animals are easily tuberculizable experimentally, in others tuberculosis can not be produced.

It is in accordance with experience that in a large number of families the predisposition to tuberculosis is hereditary, and that their members die promptly of phthisis at a certain age from the effects of a simple "cold," while in the history of other families this affection is unknown. Every individual is liable to acquire syphilis, small-pox, and other contagious diseases, but it is proved that not every one can have tuberculosis. A special predisposition and a special individual are required. In such an individual, a simple inflammation, resulting from any cause whatever, can produce tuberculosis.

Therefore, for the development of tuberculosis, two conditions are necessary: 1. A *definite* soil. 2. An *indefinite* irritant. The reaction of the soil is always the same under the influence of any irritant, whether that irritant be a bacillus or not, since the result (tuberculosis) following a lesion in such a soil depends upon the character of the soil and not upon the character of the irritant, even though one irritant, say bacilli, may act more readily than other irritants.

In view of the demonstrated fact that simple injuries of any kind can excite a tuberculosis, but only in certain individuals and tissues, it is evident that tubercularization is determined by the kind of soil and not by a specific irritant. *Tubercle should therefore be defined as being an inflammatory new formation in a specific individual or tissue.*

What is the place for tubercle in pathology? The anatomical criterion for tubercle is a granulation tissue, made up of lymphoid or epithelioid cells, which, on account of deficiencies in the soil, does not undergo any higher organization, nor tend to heal, but tends to form nodes and undergo cheesy change. Under favorable circumstances it may heal through fibroid change. The elements of tubercle tissue may spread by continuity of structure to surrounding parts, and occasionally tend to the production of metastasis, distributing themselves by means of the lymphatic system principally, and rarely by blood-vessels; and may generalize themselves through the whole body, forming miliary nodes or tubercles.

This miliary eruption of tubercle appears to have the same relation to the primary tubercular growth as the secondary metastatic cancer eruption has to the primary cancerous growth. As in cancer, the elements of tuberculosis may be arrested temporarily by the lymphatic glands governing the affected region.

In tuberculosis, lymphoid cells form the nodes; in cancer, epithelial cells. While secondary cancer nodes are, as a rule,

much larger than tubercle nodules, on account of the well-known great proliferating power of epithelium, it is also a fact that cancer may appear as a miliary carcinosis, expressed by minute nodules not distinguishable macroscopically from miliary tuberculosis. Cancer is proved to be a local disease. It is not contagious. It is infectious only to the individual who is affected by it—i. e., it is self-infectious. And so is tubercle, in every respect, a local, self-infectious disease.*

That local manifestation of tuberculosis in the lung, which is designated by the traditional name of pulmonary phthisis, forms perhaps nine tenths of all tubercular lesions, and hence deserves some special consideration.

I range myself with those who regard all forms of pulmonary phthisis as tubercular. There are only three or four lesions of chronic wasting disease of the lung which may be excluded from phthisis. These are atelectasis, or collapse from pressure of effusions; bronchiectasis, in which the enormous dilatation of the bronchi may lead to large cavities and atrophy of lung structure; primary fibroid changes; and abscess of lung. Yet all these lesions may become tuberculous from secondary inflammatory changes which usually follow.

The lesions that are known as catarrhal pneumonia, broncho-pneumonia, pneumonic phthisis, cheesy pneumonia, tubercular phthisis, and fibroid phthisis, are all manifestations of the one disease. Such a classification may be, however, entirely justifiable and useful for practical, clinical, and therapeutic purposes. Pathologically considered, phthisis is a local tuberculous inflammation of the lung, which may manifest itself in various ways, the appearances depending upon the duration of the disease, the mode of onset, and the constitution and condition of the patient. Lesions representing the different forms of phthisis, and their transition from one form to the other, are often seen in the same lung.

Virchow insists that nothing should be considered tubercular unless it shows true tubercle nodules, and hence he does not recognize cheesy pneumonia—or cheesy hepatization, as he calls it—as tubercular, although he does not object to the term phthisis for this lesion.

I was fortunate enough to attend several times the classical demonstrations on this point of Virchow, the father of the view of the dual origin of cheesy matter and phthisis; yet, from our present knowledge of what constitutes tubercle, I can not help interpreting all the forms of phthisis as of a unitarian origin. It is, after all, as Virchow himself says, only a matter of nomenclature. If we consider the presence of bacilli of Koch as the differentiating point between what is tubercular and what is not, we find that catarrhal and cheesy pneumonias are the most tubercular of all, because they contain, as a rule, more bacilli than any other forms of phthisis.

Although cheesy pneumonia, like all forms of phthisis, remains commonly a local affection, it is seen on the autopsy-table to give rise to miliary tuberculosis at least as often as any of the other forms of local tuberculosis.

We are, then, at present at the same standpoint in regard to

* Cancer and tubercle are considered analogous lesions, and classed with tumors, by a number of pathologists. This fact would not make it inconsistent to call tubercle an inflammatory product, as the distinction between inflammatory processes and tumor formation is a purely arbitrary one. Virchow has pointed out that the majority of tumors are purely inflammatory products (a statement antedated twenty years by Professor S. D. Gross). A few years ago I made the question of the etiology of tumors a subject of careful personal study, which I yet continue, and I am forced to the conclusion that *all* true tumors are inflammatory products, and that no line of distinction can be drawn where the process which we call inflammation ends and where tumor formation begins.

the character of tubercle and cheesy matter as Laennec (1819); and it is indeed perfectly reasonable to suppose that any cheesy matter found in a scrofulous person or animal is tubercular. Of course, it is evident that tuberculosis of the lung is usually accompanied by simple inflammatory products, such as organized connective tissue (chronic phthisis), or unorganized croupous and catarrhal exudates (predominating in acute phthisis), which may undergo rapid necrotic and purulent changes, resembling cheesy material. For the latter products the name "coagulation necrosis," as applied by the Heidelberg and Leipzig people, may be employed. Tubercle bacilli are commonly found in this coagulation necrosis. True tubercular cheesy matter should, I think, be considered only that product which is derived from the breaking down of previously well-organized tubercle tissue.

I need not refer to the details of the manifestation of tubercle in the lung, as these are too well known. But I would like to remark here that those small whitish or gray nodules, usually of somewhat irregular shape, which are seen more or less densely scattered throughout the parenchyma of lungs affected by phthisis, are not milary tubercles, but minute foci of broncho-pneumonia.*

These minute broncho-pneumonic foci take their origin from tuberculous matter disseminated by means of air-passages, as explained before. *Miliary* tuberculosis of the lung distributes itself by means of the perivascular lymphatics, is very rarely accompanied by catarrhal changes or hepatization, and rarely arises from a primary tuberculous focus of the lung itself; it is, as a rule, a part of general tubercular disease.

The Predisposition.—Having shown that for the production of tuberculosis we need a special soil, and that the irritant is only of secondary significance, some inquiry into the nature of this soil is necessary.

The question of the predisposition to tuberculosis, as it stands at present, must be considered from three aspects:

1. The clinical aspect.
2. The anatomical aspect.
3. The bacteridian or parasitic aspect.

The consideration of the clinical aspect of the predisposition to tuberculosis is invaluable, as it rests mainly on actual observation, on demonstrated clinical facts, and on conclusions drawn from statistics.

From time immemorial a clinically well-defined condition of the system, known as the strumous diathesis in its various forms, has been recognized. This condition will be considered later on.

There are a number of ailments which, from the experience of clinicians, are known to have a great, direct or indirect, influence in the development of general tuberculosis and pulmonary phthisis; or are known to create conditions of the system that predispose to this malady. Such are syphilis, inflammation of serous membranes, bronchitis, croupous pneumonia, diabetes, the exanthemata, especially measles and typhoid fever, deformities of the skeleton, rickets, cerebral and spinal diseases of various kinds, dyspepsia, the puerperal state, uterine diseases, prolonged nursing of children, onanism, change of climate, continuous loss of sleep, distress, etc.

That exhaustion, exposure, the deprivation of food, and other hardships of campaign life, etc., are prominent etiological factors in the production of pulmonary consumption is learned from the accounts of military surgeons, who have observed among young, robust soldiers a remarkable increase in the morbidity and the mortality of phthisis during and immediately

after the close of a war. Such observations were made in the Franco-Prussian and Turko-Russian campaigns. The fact that consumptive soldiers are not allowed to enter upon a campaign (certainly not in Germany and Russia) excludes here the probability of contagion.

Statistics also show the remarkable prevalence of phthisis in persons of certain occupations, such as stone-cutters, miners, cigar-makers, weavers, telegraph operators, book-keepers, and persons engaged in certain other occupations of a more or less sedentary nature. It is more natural to suppose that the disease or the predisposition to it is created by the character and the conditions of the occupation than that a contagion should affect preferably shoemakers, miners, or soldiers in the battle-field. Again, in most phthisical patients the beginning of the disease can plainly be attributed to an exposure, to a "cold."

On the other hand, there are pathological conditions or diseases which appear to prevent the development of phthisis and tuberculosis in general. It is an established clinical fact that phthisis is extremely rarely, if ever, associated with mitral heart disease; and, from my own observations, I believe that phthisis is rarely coincident with tumors. For the latter circumstance I can offer no explanation; nor is there any statement to this effect in literature. Rindfleisch has suggested that heart disease prevents the development of phthisis by inducing repeated slow congestions of the lungs, these congestions producing an overgrowth of the muscular tissue of the bronchioles and air-vesicles, which thus gains strength for repelling the exudates following inflammation. If tuberculosis were depending upon a contagium for its development, neither heart nor tumor disease, nor any condition of the organism, could ever prevent its occurrence.

All the clinical facts above referred to prove definitely the necessity for a predisposition for the development of tubercular disease, and militate against the necessity of a contagium.

The anatomical aspect of the question—the morphology of the soil in which tubercle develops—is the most important aspect.

Beneke* tries to explain the disposition to tuberculosis by a disproportion between the size of the heart and blood-vessels and other organs and the bulk of the body.

Schottelius† made recently some interesting observations concerning the mode of termination of the smallest bronchioles and their relation to the lung acini in different animals. He found that in the carnivora the entrance of the bronchioles into the acini presented very small apertures, so that the air-vesicles were not easily accessible to irritants; while in the herbivora the terminal bronchial terminations were quite wide, thus permitting the free entrance of irritants. He states that in man the bronchial terminations congenitally approach sometimes those of the carnivora, and sometimes those of the herbivora. In the latter type he believes he has found an anatomical explanation for the predisposition in some individuals to pulmonary tuberculosis.‡ Weigert, of Leipzig (one of the most enthusiastic germ-theorists), properly remarks, upon the observation of Schottelius, that it does not explain the predisposition, as the same animals will react, upon the introduction of the "poison of tuberculosis" into any other part of the body, where the bronchioles do not come into play.

My own studies upon the minute anatomy of the tissues of man and of animals predisposed to tuberculosis extended over

* "Die erste Ueberwinterung in Norden," Norden, 1882.

† Virchow's "Archiv," vol. xci, 1883.

‡ The method of investigating this condition is not without interest. The vesicular structure of the lung was injected, through the bronchi, with a resinous melted mass, which, on cooling, presented molds of the bronchioles in connection with their characteristic infundibula and acini.

* See, in connection with this, the excellent studies of W. H. Mercur, from the pathological laboratory of the University of Pennsylvania, published only in abstract form in the "Phila. Med. Times," July, 1883.

a large amount of material, and gave results which, to my mind, satisfactorily explained this condition. These results I announced at a meeting of this society in October, 1882.

The anatomical peculiarity observed in either man or animals, be it inherited or acquired, I first showed to be, briefly stated, as follows: All the tissues of the body approach somewhat an embryonal type; they are peculiarly rich in nuclei and young cells, and the lymph-spaces of the connective tissues are narrower, fewer in number, and show a great many more cellular elements in the serofulous than in the non-serofulous. So far, subsequent observations of others agree with mine. Objections are raised only as to the direct relation between these structural peculiarities and tuberculosis. Here I must state that I only suggested, and never asserted, the necessity of such a relation. It is quite possible that there are some other and more striking peculiarities in the morphology of serofulous animals yet undiscovered. This much I can, however, reassert to-day: that tuberculosis usually ensues, when a simple inflammation is set up by any kind of injury, in animals with the structural peculiarity which I have described; but tuberculosis can not be produced in animals that do not have this structural peculiarity, so far as my experiments show, unless the injury is inflicted upon serous membranes.

For the details of my researches in this direction, I must refer to my first paper upon this subject.*

Koch asserts that the structural peculiarities of the tissues which I described can have no ætiological relation to tuberculosis, because an animal not possessed of such tissue peculiarity—the cat—is easily inoculable by tuberculous material. Here I must differ from Koch, as in my experience with cats this is not the case; and, again, Koch brings no proof for his assertion, and I am unaware that he, or anybody else, has produced tuberculosis in a cat except by inoculation into some serous cavity. That inoculations into serous membranes prove nothing for tuberculosis, as I have shown conclusively, Koch still seems to fail to see. But here is a way in which cats may become tuberculous, with or without the bacilli. In one instance we kept one of the cats in a close box, deprived of liberty, good air, the comforts of life, motion, and sufficient food; she also had been inoculated with diphtheritic material eight months previously, but had recovered. After the lapse of a year the cat was set free, but was accidentally killed, and was found to be affected by general tuberculosis in a high degree.

This, in my opinion, corresponds fully to the conditions in which a healthy young woman is placed, and finally becomes serofulous, and then tuberculous, from a simple cold, after being the faithful nurse for two years of a consumptive husband.

On the other hand, there is full reason to believe, as it is in accordance with experience, that young serofulous persons, under proper conditions, may become normal individuals—i. e., lose or outgrow the predisposition to tuberculosis. (I have dwelt upon this in my first communication on this subject.)

The serofulous habit, and, consequently, also phthisis, may skip a generation, and does not invariably embrace all members of a family. It has been observed that parents may have at first healthy children without any vice, who grow old well; and subsequently the same parents, without being phthisical (but, perhaps, otherwise becoming deficient in health), may have other children that exhibit a full serofulous habit. But even the reverse has been observed.

It would be highly desirable if physiologists would furnish some experimental observations on the circulation of the plasma in the lymph-spaces. This is, to my mind, a circulation or movement of vital juices in the tissues, which, for the well-

being of the individual, is of an importance next to that of the blood. These important channels, the lymph-spaces, are known to regulate the blood-pressure, carry and breed food (white blood corpuscles) for the tissues, lubricate tissues, and relieve the body, if any of its parts are damaged by injury of any character, of inflammatory exudates, dropsy, etc. These channels are nearly blocked up, nearly useless, in the *serofulous*, and hence can not perform their functions, and thus modify materially the condition and the fate of the individual in case of disease.

The term "*serofulous*," which I retain for describing the above-stated anatomical peculiarity of animals and individuals, is as good as any other term; moreover, it is known by all as designating the "predisposition" to tuberculosis. *Serofulous* should be called a *condition* and not a disease, as it has its (a natural) hereditary and widely distributed type in man, and its homologue in some normal animals (rabbit, guinea-pig, etc.). It must be remembered that the serofulous individual acquires certain lesions—such as enlargements of lymphatic glands, cold abscesses, caries, long-standing catarrhs of various kinds, skin eruption, and certain deformities of bones—only under the influence of injuries, or of the same agencies which, in the non-serofulous individual, lead to transient and curable affections.

Virchow designates simple, permanent enlargement (hyperplasia) of lymphatic glands, with or without cheesy change, "*serofulous*," in contradistinction to "*tuberculous*" lymphatic glands, which contain milium tubercle nodes (heteroplasia), and which also undergo cheesy change.

There is nothing called "*serofulous*" or "*serofulosis*" which by others is not also called "*tubercle*" or "*tuberculosis*." There are, strictly speaking, no serofulous products, but only tuberculous products. The traditional term "*serofulosis*" is variously used and interpreted, although it is not evident that any one means by it anything anatomically well defined.

Others take matters easier, calling everything *tuberculous* that contains tubercle bacilli, and calling serofulous all cheesy matters in which bacilli are absent.

There is still a third aspect of this question, viz., the parasitic or bacillary theory of the predisposition to tuberculosis. As I mentioned in the earlier part of this paper, Baumgarten, Marchant, and several others have recently stated that not only tuberculosis, but even the predisposition to tuberculosis, is to be explained by the susceptibility of an individual to bacilli! Under this hypothesis the inherited serofulous tendency in individuals is created through the mediation of the bacilli. It is supposed that the bacilli or their spores may be conveyed to the ovum by the organism of the mother, or *in utero* by the spermatozooids of the father. Furthermore, they say, inheritance is to be explained in no other way than by a bacillary infection of the infant through the milk of the nursing mother, and by subsequent living together of children and phthisical parents. We may exclude such view altogether from consideration, as it has not been proved. Besides, it is not in accordance with facts from observation. It is as contrary to biological laws to accuse parasites of the transmission of a predisposition to tuberculosis as it would be of that of epilepsy, etc. Hence we may dispose of such view as an unfounded, absurd hypothesis.

I am not opposed to the germ-theory of disease where it has its well-founded and proper application. Bacteridian studies have contributed largely to our knowledge of a certain class of pathological processes and lesions. But misinterpretations of the significance of bacteria—bacillary speculations, without occasion for them and without any proper application to the subject—are a check to the progress of medical science. The question of the predisposition to and the cause of tuberculosis demands a great deal more of solid pathologico-anatomical and

* Loc. cit.

experimental studies; it can by no means be regarded as settled, and least of all through the discovery of a bacillus inhabiting necrotic tubercular tissues.

Tuberculosis, without Predispositions, due to Inflammation of Serous Membranes.—For some years I have felt much interested in the question whether or not simple inflammation of serous membranes could lead to tuberculosis in the non-scrfulous—that is, in persons who have no family history of tubercular disease; and I would like to ask the opinion and experience of the members of the society upon this question. It is well known that there may be primary tuberculosis of serous membranes, producing secondary inflammations; and, on the other hand, tuberculosis secondary to adhesive pleurisy or peritonitis is also common in serous membranes. The general belief, however, is that, whenever tubercular disease in either case occurs, if not secondary to phthisis or tubercular disease elsewhere, a stromous or scrfulous condition is required.

Traumatic injuries of joints are known to lead often to fungoid (tubercular) synovitis and general tuberculosis occasionally in individuals with good family history. Simple injuries of the eyeball (the anterior chamber, as well as joints, is lined by serous membrane), under conditions as above stated, have also been known to lead to tuberculosis, as recorded by Wolfe ("British Medical Journal," March, 1882); Gradenigo ("Annales d'oculistique," 1870).

Dr. M. Litten,* of Berlin, was the first to publish some accounts which demonstrate that miliary tuberculosis may be caused directly and primarily by pleurisy and inflammation of other serous membranes in persons with no phthisical history, and without any cheesy masses being formed in any part of the body. In his (Litten's) experience this was particularly the case when there was a rapid reabsorption of the exudates in case of chronic pleurisy, or if repeated removal of the fluid of a hydrothorax or ascites by tapping had been performed. He records several well-studied cases of that kind, accompanied by autopsy records. Litten's observations at no time, however, received the attention they well deserved.

Not only clinically, but also pathologically, this part of the tuberculosis question is rather neglected. In text-books of pathology the occurrence of primary tubercle in adhesive bands is incidentally mentioned, but no special consideration is devoted to its ætiology and manifestations.

Upon the autopsy-table I have repeatedly met with subjects with exquisite primary tubercular peritonitis, pleurisy, or pericarditis, which, upon inquiry into the history of the cases, failed to reveal any phthisical or scrfulous history. The products of these inflammations were often plastic in character, not unlike those of fungoid synovitis. The appearances sometimes present themselves particularly strikingly in the peritoneum; all the viscera may be glued together by plastic material into a solid mass. The omentum is usually retracted and matted together into a solid cord or mass, which, lying parallel with the transverse colon, reaches across the abdominal cavity, and may have a thickness of from two to four inches; the mesenteric and other lymphatic glands are usually normal, but sometimes in advanced cases may be much enlarged and more or less cheesy. The perfect absence of any cheesy focus in the body is, however, often a conspicuous feature in these cases.

Some pathologists deny the tubercular nature of these formations and of the flat nodular masses which cover the serous surfaces in these cases. It is true that fibroid changes predominate in these formations; but numerous tubercle nodules, with all the necessary attributes, epithelioid and giant cells, and necrotic changes, were plainly seen in all cases which I had occasion to examine. Secondary miliary tubercles of quite recent date are also found thickly strewn locally in these parts, and may or may not be seen in the lungs and other organs. As a rule, there is more or less ascites in these cases. My colleague, Dr. E. O. Shakespeare, has recorded similar cases, and Dr. Morris Longstreth tells me also that he has seen and studied such cases. Dr. Mitchell Prudden ("Medical Record," June 16, 1883) describes an allied case.

In chronic adhesive pleurisy there occur similar primary tubercular formations in the organized plastic exudate, which in some cases give rise to secondary (miliary) tuberculosis of other organs. The lungs may be perfectly normal in all parts, and show only peripherally, just below or bordering upon the pleura, some indurations of gray color made up of recent tubercle tissue. These young tubercle infiltrations are in some cases seen to have penetrated into the substance of the lung, in a pleuropneumonia or dissecting pneumonia directly from the old tubercular masses of the adjacent pleural membrane. I have also examined several cases of plastic adhesive pericarditis, and found the plastic vegetations in this lesion to contain tubercles; two of these had coincident pleuritic lesions.

Cases which have come under my observation during the last eighteen months—i. e., since the opening of the bacillary campaign—have, of course, been carefully examined for bacilli, and the results may be summarized as follows: Bacilli were found in most of the lesions, if the tubercular disease of serous membranes was accompanied by cavities and cheesy masses in the lung, or by tubercular ulceration of the intestines, and if cheesy changes in general were prominent; but no bacilli could be discovered, even after repeated and careful search, in any of the lesions of four cases of primary peritoneal and pleuritic tuberculosis examined. In none of these latter four cases were there any conspicuous cheesy changes in any organ, and no cavities or marked hepatizations in the lung, and no intestinal ulcers, although in two there was slight pulmonary miliary tuberculosis. These cases will be recorded in detail in a future publication.

I have also seen several cases of primary tubercular pleurisy and pericarditis, and a few of primary tubercular peritonitis, in the pathological institutes of Virchow in Berlin, and of von Recklinghausen in Strassburg. I questioned these foremost men of pathology concerning the ætiology of these lesions. They, as well as Rindfleisch, of Würzburg, told me personally their opinion, stating their firm belief that these lesions often directly originated from simple chronic inflammatory changes, without the agency of any cheesy focus, or any specific agencies whatsoever.

Birch-Hirschfeld also states, in his classical pathological work (page 183), that "nearly every exudative pericarditis and pleurisy leads to a local tuberculosis, if it takes a chronic course."

How often primary tubercular lesions of serous membranes occur in non-scrfulous persons, and whether this is the only form of tuberculosis in this class of persons, is, of course, a matter of speculation until thorough statistics and careful studies are made in this direction. Nevertheless, it is a demonstrated fact, as I will show further on, that primary tuberculosis can be produced in the peritoneum of animals, like the dog, which are proved not to have any scrfulous tendency. I have seen this myself, and seen O. C. Robinson, in my laboratory, succeed in this experiment by the introduction of simple irritants into the

* M. Litten, "Sammlung klin. Vorträge," No. 119. "Ueber acute Miliartuberculose," 1877. For further references, see "Wiener med. Presse," No. 36, 1882; "Charité Annalen," vol. vii, Berlin; "Kranksheiten der Respirations-Organe," in Virchow's "Handb. der spec. Path. und Ther." vol. i; Virchow, "Geschwülste," vol. ii, p. 725, etc.; also, Formad, "Transactions of the Philadelphia County Medical Society," and "Transactions of the Pathological Society," for 1882-'83.

peritoneal cavity. Koch also never succeeded, even with the bacillus, in producing tuberculosis in the dog, except when using the peritoneal cavity or the anterior chamber of the eye (which is also a serous sac) as a point for inoculation.

Here is room for hypothesis. I would prefer to believe that tuberculosis could occur only in scrofulous persons, as this would better agree with the *scrofulous anatomy*. It is, however, possible that a scrofulous anatomy of the tissues may be artificially established by the blocking up of the lymph-spaces of the serous membranes by fibrin and molecular *débris* suspended in the serum which is being reabsorbed. This would then be a mechanical process, and not one of infection. If an inflammation occur in serous membranes, resolution becomes difficult through the peculiarity of the exudate. This is fibrinous mainly, and, forming extensive, usually permanent organized deposits, it impairs the function of serous surfaces quite materially; the reabsorption of new exudates is probably sometimes entirely impossible. Thus conditions may possibly be created in serous membranes not unlike those of scrofulous tissues; and simple irritants, perhaps the fibrin, may induce in them a similar reaction.

Question of Contagiousness; Clinical Aspects.—The idea of the contagiousness of tuberculosis is not new, and, like other unfounded views in medicine, it has oscillated, as all fashions will, from one extreme to the other for many generations. At present it is entertained by a number of scientists and by a part of the profession. This view has called forth, from time to time, a number of researches whose results were either *pro* or *contra*. I will refer to these subsequently.

Of late, it appears that the belief in the contagiousness of tuberculosis has won considerable ground, not so much on account of accurate observation as on account of Koch's discovery of the *Bacillus tuberculosis*.

Another element which seems to have had an influence in this direction is the fact that certain experimenters, formerly believing, from their own experiments, that tuberculosis was non-contagious, were led, later on, to change their opinions on account of the results of subsequent experiments. These latter experiments will, however, be shown not to be conclusive.

Before discussing the merits of the bacillus question, I would like first to consider the question of contagiousness from clinical grounds; and, should it be proved that tuberculosis is not contagious, then the necessity for a contagium surely falls to the ground.

According to the observations of the most prominent clinicians who have paid special attention to this matter, there is not a single authenticated case of tuberculosis as a result of contagium on record. Among scores of experienced men who deny thus the contagiousness of tuberculosis it is sufficient to mention the names of Virchow, Recklinghausen, and Stricker, in Germany; Gull, Williams, Watson, Paget, Humphrey, and Richardson, in England; Bennet, in France; and Hiram Corson and Traill Green in our own country—all men of close observation, with ripe experiences reaching over thirty to fifty years.

The statistics of the large Brompton Hospital for Consumptives, for thirty-six years, with regard to the resident officials, compiled by Dr. F. Williams (quoted from the "Lancet," 1883), show that of four resident medical officers, one of whom had served twenty-five years, none had any lung disease; of six matrons, none were consumptive; of 150 resident clinical assistants, eight became consumptive and five died, but in only one was the disease developed during residence at the hospital. Since 1867, of 101 nurses, only one has died from phthisis, and that after leaving the hospital. Before 1867, six died, three of these of phthisis, but only one became so while resident, and she had a consumptive sister. She died thirteen years after first joining the hospital, but was not there the whole time. Of thirty-two

gallery maids since 1867, none developed phthisis while at the hospital. Of twenty house-porters, five died, but none of consumption. Non-residents: Of nine secretaries, three were threatened with lung disease, but recovered. Of twenty-two dispensers, seven died, three of phthisis, one while at the hospital. Of four chaplains, three died, none of phthisis. Of twenty-nine physicians and assistant physicians, eight died, none of phthisis. At the Chest Hospital, Victoria Park, there have been five resident medical officers during about the last fifteen years; all are alive and well. Two matrons, neither consumptive. There were two clinical assistants appointed every three months; none known to have developed the disease at the hospital. One nurse out of fifty or sixty in the last few years became consumptive while at the hospital, and she died after a year's illness.

An ingenious plan to decide the question of the communicability of phthisis was instituted by the British Medical Association by establishing the Collective Investigation Committee. This committee sent out questions relating to this subject to all the members of the society. Of 1,028 replies received, 673 negated the idea of a contagium, while 261 replies favored it. According to these statistics, there is a manifest majority in favor of the non-contagiousness of phthisis; yet such a plan is unsatisfactory, for the answers may be of unequal value, as their worth must be estimated in proportion to the experience and authority of the sender.

Not without interest is the observation of Professor Corradi, of Pavia, who noted that out of 133 families in which he had cases of consumption, in only twenty-five of the families were there more than one member of the family ill of that affection.

There is no proof whatever that tuberculosis is conveyed from person to person by contagion. Seeming exceptions to this assertion can almost always be accounted for in some other way.

The assertion that the wife may contract the disease from the husband I have pointed out, in a former paper, to be untenable; and I have also indicated that a predisposition to scrofulosis may be acquired from the unwholesome mode of life led, of necessity, by such individuals. Besides, it is established statistically that nearly one third of all deaths occurring in middle life are due to phthisis. In view of the frequency with which this malady occurs, intermarriage between scrofulous individuals may be almost as common as between non-scrofulous ones.

The view taken that children become scrofulous by contagion from phthisical parents may be met by the fact that instances have occurred where a number of young children of phthisical parents were early removed from their homes and distributed among healthy families, and yet all, sooner or later, became phthisical.

Healthy persons have even been fed on bovine tuberculous material (which is considered identical with human tuberculous material), and have thriven on it, as is proved by the interesting feeding experiments made upon man and recorded by Schottelius (Virchow's "Archiv," vol. xci, 1883). The circumstances which led to this experiment were as follows: In Würzburg the sale of meat affected by pearl disease or bovine tuberculosis is permitted, but, as some opposition to its sale once arose, a community of country people agreed to use exclusively tuberculous meat, on account of its cheapness and in order to prove that it was harmless. From October, 1867, to November, 1868, forty-nine tuberculous heaves, with well-pronounced lesions, were consumed by these people while they were under the supervision of the district physicians. In many instances the meat was even eaten raw in consequence of habit. Ever since then those people have continued the use of tuberculous meat, and thus far no bad results have been noticed; in fact, the record says that the people referred to are unusually healthy.

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884.

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE II.

Methods of Manipulation: Removing, Preserving, and Examining the Brain.

SINCE he is permitted to clean scrupulously the abdominal muscles before examining the viscera, the average first-year medical student is at least consistent in deferring the removal of the organ of the mind until he has carefully dissected the muscle which wrinkles the forehead. He lacerates the brain with saw and chisel; tears it in the effort to save the sacred skull-cap entire; injures it yet more in the process of extraction, and places it upon a flat surface, where its own weight completes the rupture of delicate connections and hopelessly distorts its shape. Here he leaves it, perhaps for a day or two, probably drying, and possibly freezing or decomposing, according to the temperature. He then transfers it to a basin or pail, covers it with strong alcohol, notes with satisfaction that the surface rapidly hardens, feels sure of finding out all about the brain, and sees himself a future neurological expert, or even an asylum superintendent. In due time—that is, when not engrossed with other and usually far less important organs—armed with his “Gray” and a large knife, he succeeds in identifying the cerebellum, the optic chiasma, the orifice left by tearing off the “pituitary body,” and the pons Varolii, which therefore has not proved to be in his case—as he knows it has with some of his fellows—a veritable “pons asinorum.” He also recognizes the fissures of Sylvius and Rolando, but the pia has dried upon the hemispheres, and the effort to detach it creates so many undescribed depressions that the detailed study of the convolutions is left for a more favorable occasion. Lifting the occipital lobes, his fingers presently find their way into cavities which must be the “descending horns of the lateral ventricles,” thus practically refuting the opinion of certain “theoretical” anatomists that there is no such thing as a “great transverse fissure” until artificially produced. He then slices the brain *secundum artem*, and so great is his pleasure in demonstrating the “centrum ovale majus” that he is not seriously disturbed at the presence of an unexpected rent in the callosum and of an irregular orifice on each side. Continuing his operations, however, he finds the interior of the brain little more than a mass of nearly homogeneous pulp; at first he fears that the alcohol was too weak, but, when satisfied upon this point, suspects that the names in the books have somewhat the same significance as those of the heavenly constellations, modestly admits that he may not be sufficiently advanced to study the brain,

and resolves that, when he is personally prepared for this branch of inquiry, his *armamentarium* shall consist not of a scalpel, but of a spoon.

Not only does the foregoing fairly describe what often happens, but there is little reason why it should not happen always. In what manuals of descriptive or even practical anatomy are there given adequate directions for the removal, preservation, and dissection of the brain? In what medical college do these matters form a topic of extended instruction? In what medical museum are they exemplified? How far is the average graduate prepared to make a necropsy for the sake of determining any critical encephalic question?

The fullest directions known to me are given in the “Practical Anatomy” by Heath, edited by Koen; whether, in my judgment, they are sufficiently full may be inferred by a comparison therewith of the “Directions for the Removal, Preservation, and Dissection of the Brain of the Cat,” in the “Anatomical Technology” (Wilder and Gage, 423–436, 450–457). The works of Quain and Allen give no directions at all, and, in the last edition by Gray, they are comprised within seven lines. The manuals of Delafield and Bevan Lewis have rather a pathological than a normal bearing, and certainly presuppose too much knowledge and skill upon the part of the reader.

Medical students seem to be credited with an inherent notion as to the way of removing a brain, as if the head were merely a nut to be cracked and emptied; but here the simile ceases, for the shell is prized and preserved, while the kernel is too often either decayed or unappreciated. Has it never happened in a medical school that the exposition of the structure of the noblest and most intricate organ of the body has occupied less time than was devoted to the description of a few ligaments and bones? Has it not sometimes consisted in taking a brain, which was removed in twenty minutes (less than should be spent upon a cat’s), dashing it upon the table with an air of familiarity such as the baker displays toward his lump of dough, and hewing it into incongruous slices or tearing it to display artificial conditions? * Has it never resulted that the principal acquisition of the students therefrom has been a profound conviction of the self-confidence of the demonstrator?

Are there not, in large cities of the United States, museums connected with populous medical schools, yet containing, perhaps, a few animal brains, but none displaying the normal human organ; perhaps a series of encephalic tumors and abnormalities, but no normal structures; perhaps even plenty of skulls, but no brains at all?

If the prevalent customs are what they should be, how is it that the following sweeping assertion of a distinguished medical anatomist has stood upon the pages of the leading American medical quarterly without even an attempt at refutation?

“In our colleges . . . the only point of technic the

* The article “Anatomy” in the last edition of the “Encyclopædia Britannica” (i, 876) seems even to acquiesce in the present condition of things as beyond remedy: “In taking the brain out of the cranial cavity, this commissure [the mediacommissura] is usually more or less torn through, and the cavity [diacœlia] is consequently enlarged.

medical student is taught is how to use his knife and forceps in dissection. He is given no instruction in the art of exploring viscera or gland-ducts, the methods of taking out the brain or spinal cord, the preservation of anatomical specimens, or the thousand and one things that he needs in making an autopsy or in preserving specimens. Judging from the condition in which specimens are often presented for inspection at our medical societies, it is evident that not one physician in a hundred knows the use of alcohol as a preservative."—The "American Journal of Medical Sciences," January, 1883.

Why, finally, in the case of that brain upon whose configuration alone it was thought by some might depend the decision as to whether there had been committed two murders instead of one, why was it possible that this infamous yet precious brain should be removed hastily and, by the ordinary barbarous method, weighed in a grocer's scales,* neither photographed nor even sketched, and, in short, as regards its gross anatomy, so inadequately examined as to neither advance science nor establish justice? Not the brain of the most insignificant cat should be so lightly dealt with as was the human brain whose condition, whether cause or merely concomitant, presented the most solemn psychological problem of modern times. Whatever may have been the reason for the absence of proper facilities for examination and for the neglect of such opportunities as may have existed, since the determination of Guiteau's insanity was in no degree aided thereby, for the credit of the medical profession of this country it would have been better that his brain should not have been removed at all.

Old ways are not necessarily good ways, and sometimes it is discovered that time-honored customs have nothing to recommend them save their antiquity. Notwithstanding, therefore, its archaeological respectability, I am forced to characterize the well-nigh universally employed method of getting at the human brain for macroscopic purposes by "inserting a strong hook and giving a quick jerk" as anatomically futile and artistically brutal, alike disrespectful to the organ concerned and to the operator as a member of a learned profession; upon the whole, it is less admirable than the splitting of a pig's skull by the butcher for extraction of the brain as an article of food.

The principal features of the methods employed in the Anatomical Laboratory of Cornell University for the macroscopic study of the normal brain are as follows:

1. The initial determination, if possible, of the use to be made of a given brain.
2. The concentration and preservative effort upon the parts especially desired, and, in some cases, a reduction of the mass to the region containing these parts.
3. The exclusive employment of alcohol as a preservative agent.
4. The maintenance of a low temperature during all preservative processes.
5. The injection of alcohol steadily for from one to ten days (continuous alinjection †) into the arteries so as to harden the brain *in situ*.

* The "Medical Record," July 8, 1882, p. 53.

† Since *aldehyde* is generally accepted as a legitimate abbreviation

6. The demonstration of the forms of the *cœliæ* ("ventricles"), and the contour of their parietes by the injection into them of alcohol, or of some mass capable of solidifying into a cast.

7. The systematic and intentional mutilation or even destruction of the skull for the sake of the brain.

8. The removal of the adult calva, after the usual circular incision, by hemisection a little laterad of the mesen.

9. The exposure of the brains of fetuses and small animals by means of nippers, the trephine, and the dental engine.

10. The avoidance of all pulling upon the brain, either active or from its own weight, by the observance of care in all manipulation, and by the constant support of the organ in brine.

11. In general, a treatment of the brain in a manner commensurate with its complex structure, its high office, the value of the information to be gained from it, and, last though not least, our own self-respect and consideration for our patients; for he who is habitually rough with the dead is certainly in danger of occasional disregard of the living.

In the following amplification of the methods just named, the scope of the present course and the lack of time confine me to the more novel and important features. Some account of them has appeared in the "Transactions of the American Neurological Association" for 1883 ("Journal of Mental and Nervous Disease," July, 1883, 81–83), and they were briefly described at the meeting of the Society of Naturalists of the Eastern United States, December 28, 1883. Fuller details are reserved for subsequent publication.

Lateral Hemisection of the Calva.—The scalp is divided, as usual, by a transverse incision from ear to ear, and the flaps are reflected as far as possible either way. A cord is carried around the head from about 1 cm. dorsad of the occipital protuberance, at a level with the ends of the scalp incision; if the string be kept in the same plane, it will cross the forehead 1.3 cm. dorsad of the brows. This string is held steadily in place, and a light cut or black mark made along its entire length. With this as a guide, a firm, clean cut to the bone is carried about the skull, and the saw—which should be straight and sharp—is used along this cut. The operator should stop at frequent intervals and ascertain whether he has penetrated the skull, by means of a moderately sharp point like that of the probe-end of the "tracer."* The bone should be *completely divided*, excepting at four points, say at or near the four "corners" of the head. The string is then carried over the head about 1 cm. dextrad of the mesen,† a guiding cut made as before, and the calva hemisected along this line. If the dextral piece does not readily come away after division of the two corners, a small, narrow-bladed palette knife‡ is passed between the dura

of alcohol *aldehyde* enters, there seems to be no *a priori* objection to *alinjection*, *alinject*, *alinjected*, etc., as a single word equivalent to *alcohol injection*, etc.

* "Anatomical Technology," Fig. 17.

† So far as concerns the brain, the hemisection may be made as well upon the left side, but, in accordance with the general plan of mounting skeletons, especially of animals, so as to display the left side, if either, the division of the calva is less obvious when made upon the right.

‡ This was suggested to my friend, Professor S. H. Gage, who, in

and the calva first in the temporal region, where the latter is usually thin. *Neither now nor at any time is force to be used.*

The dural adhesions along the superior longitudinal sinus are now within reach, and may be loosened by the palette-knife or with a sharp edge if necessary, and, on division of its two attached places, the left side of the calva is readily removed. The two parts of the calva may be wired or cemented together.*

Supporting the Brain in Brine.—So far the brain is fully supported by the dura, which, if proper care has been used, has not been divided by the saw. When the dura is removed, the brain is sure to tear by its own weight unless constantly supported. The body is therefore raised to the level of a large pan or earthen dish full of brine, about twenty-two per cent. Good dairy salt should be used; if the salt is not clean, the brine is turbid and obscures the dissection. If it is desirable to avoid the spilling of brine, the vessel containing it may stand in a pan or tray. With the palette-knife the dura is separated from the skull as far as possible on all sides. In this way, by a little care and by using a narrow, sharp-pointed knife for severing the olfactory filaments *ectad of the dura*, the *Lobi olfactorii* may be removed entire. The dura must be divided along the margin between the anterior and middle fossæ and wherever its adherence to the *basis cranii* is very firm. The optic nerves are to be cut as soon as seen, and the infundibulum divided immediately afterward; if the hypophysis is wanted, it can be separately extracted after removing the brain. The subsequent steps in the operation would take too much space if described in detail, but, if the brain is constantly supported in the brine, there need be no trouble. When removed, its dorsum is still covered by the dura, and, for some purposes—as, e. g., the study of the base while fresh, and alinjection, either vascular or entocælian—it may be retained with advantage.

The Exclusive Use of Alcohol.—For primary immersion or injection, the alcohol is fifty to sixty-five per cent., and the strength is increased to ninety-five per cent., more or less rapidly, according to the size of the mass to be penetrated; with a small and thin-walled brain, like that of an embryo or *Necturus*, the full strength may be applied within six hours; with a large mass, as many days should elapse.

As examples of what may be done with alcohol, I show brains of cats, frogs, monkeys, and men, fetal and adult; it is difficult to see how brain substance can be firmer or more durable than these; one specimen, the half brain of a child at birth, has been in alcohol for nearly ten years, and seems to be as sound as ever.

In affirming that alcohol is an efficient preservative of nervous tissue for macroscopic study, I neither deny the usefulness of other agents nor claim that alcohol is altogether adapted for histological purposes. The trials of other liquids

fact, during my absence, had the first opportunity of removing a human brain by hemisection of the calva after I had determined to adopt this method.

* Spitzka has described briefly ("Trans. Am. Neurol. Association," as reported in the "Journal of Nervous and Mental Disease," July, 1883, p. 84) a method of removing the brain by sawing off only the back part of the skull.

in the anatomical laboratory of Cornell University have not been sufficiently extensive or systematic to warrant any generalization therefrom. Some of the other agents are cheaper than alcohol, but, when the latter is obtained free of tax (as it may be for any museum or educational institution, under certain regulations), the cost is slight.

The only valid objection to the macroscopic use of alcohol is that it bleaches the color of the cinerea so that the location and limits of the ganglionic masses are less easily traced. This very important information may, however, be obtained after thorough acquaintance with the general topography of the organ, by the examination of fresh brains or of specimens preserved in some other way.

How far alcohol will answer for histological purposes is not yet, I think, well determined. On the one hand, a recent manual of practical histology (Gibbes) states that it is efficient; on the other, Spitzka, as reported in the "Journal of Nervous and Mental Disease" (July, 1883, p. 84), declares the methods employed by me "absolutely unfit for histological and pathological purposes."

Pending the examination of brain tissue hardened as herein described, I can only add that there are reasons for ascribing some of the previous poor results to either the application of strong alcohol to a large mass, or the failure to maintain a low temperature while the alcohol is penetrating the specimen.*

The Low Temperature.—The value of this condition as an adjuvant to direct preservative agents is well known; indeed, an essential piece of laboratory furniture is a refrigerator of some kind. For some purposes an ordinary ice-chest, opening at the top, serves a good purpose; the chimpanzee, referred to further on, was fully preserved by continuous arterial alinjection while lying in such a chest for ten days. But all operations requiring a low temperature are more conveniently carried on in a cold closet or small room adjoining the laboratory. Such a place may be temporarily provided by inclosing a window and sufficient adjacent space by a glazed partition; during cool weather a sufficiently low temperature may be secured by simply opening the window.

Mesal Hemisection of the Brain, either before or after Removal from the Skull.—For the study of the fissures and gyri, and of all parts excepting such as lie directly upon the mesen (conarium, medicommissura, crista, etc.), the brain is well adapted if hemisected either before or after removal. Nor need the head be frozen in the former case. If the saw be sharp and the teeth not much "set," the falx may be split in two, and the mesal aspects of both hemispheres preserved. As this, however, requires considerable care, and the use of a sort of miter-box or macrotome (recommended by me 1873, *II*, 217), it is desirable, to insure the safety of at least one mesal surface, that the hemisection should be made 1 to 2 mm. laterad of the mesen, and the adherent portions of the opposite side of the brain removed afterward with a scalpel. Each hemi-encephalon is very easily removed from the skull.

If the brain has been removed entire, it may be hemi-

* Dr. W. A. Hammond has called my attention to his preservation of small portions of nervous tissue for microscopic examination by immersion in absolute alcohol in tubes surrounded with ice.—The "Psychological and Medico-Legal Journal," September, 1874, p. 169.

sected with a large and very keen and thin knife, alcohol being poured on it as the section is made. The brain should be steadily by an assistant, and rest on a bed of cotton in a long, deep pan of brine.

The hemi-encephalon is to be hardened while resting on its mesen upon a flat surface, preferably of glass. Since the bottoms of jars and dishes are rarely flat, the brain should rest upon a separate disc of glass which may be lifted from the vessel without touching the specimen. For two days the brain should be made to rise a little from the glass every few hours, in order to permit the access of alcohol to the mesal surface; then for a day it may be supported on its lateral aspect in a bed of cotton to prevent distortion.

If it is desirable to determine the precise relations of the fissures and gyri to the skull, a hemisected head may be placed in alcohol and access of the liquid to the lateral regions secured by trephining in several places and injecting alcohol entad of the dura.

Hardening the Brain in situ by Arterial Alinjection.—If not only the fissures are to be studied, but also the configuration of the whole brain is to be determined, the above-named method should be employed. In evidence of its efficacy, there are shown the brains of a cat, a marmoset, a chimpanzee, and a man thus prepared.

The injection of alcohol through the carotid arteries for the sake of preserving the brain was done by Professor Flower upon a man, and by—or for—Professor Owen upon a gorilla. From the published statements it does not appear whether the injections were repeated, and there is no reason to think that the flow was made *continuous*.

Before alcohol is injected, the vascular system should be cleared by the repeated injection of tepid water until what escapes from the veins is uncolored by blood.

A cannula is then secured in an artery leading to the brain; or, if it be desired to alinject the heart *in situ*, together with other parts of the body, one cannula in the portcava and another in a pulmonary vein, as was done with the chimpanzee and marmoset* above mentioned.

These cannulae are connected independently, or together by means of a T-tube and rubber tubing, with a reservoir of alcohol, which is set upon a shelf at a sufficient height to insure a flow, or raised and lowered by means of a windlass. The animal or brain should rest in a vessel into which the alcohol escapes as it flows from the veins or oozes from various surfaces, natural and cut. The same alcohol may be used over and over, its strength being restored or increased by the addition of fresh alcohol.

As soon as there is reason to believe that the brain is so far hardened as not to be distorted by its own weight, a part of the calva may be removed, as above described, and afterward the dura. This permits the direct access of the

alcohol in which the specimen lies, and any possible distortion may be corrected by the half of the brain which remains inclosed.

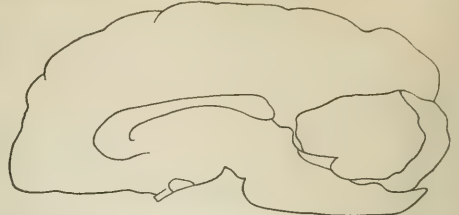


FIG. 40.—OUTLINE OF THE MESAL ASPECT OF THE BRAIN OF A CHIMPANZEE, hardened while resting on the base; reduced.

The chimpanzee was subjected to continuous alinjection for ten days; one side of the brain was uncovered during

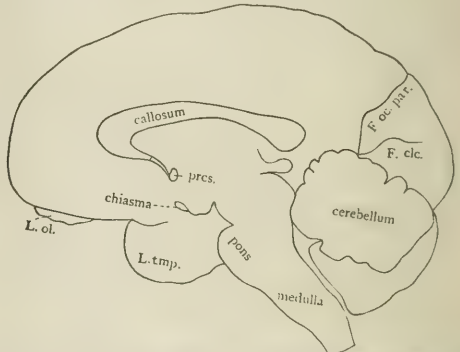


FIG. 41.—OUTLINE OF THE MESEN OF A CHIMPANZEE'S BRAIN hardened *in situ* by continuous arterial alinjection; reduced.

part of that time, but both sides agree, as appears from the specimens and photographs* shown at the lecture, in the



FIG. 42.—HUMAN BRAIN hardened *in situ*; reduced.

extension of the occipital lobes of the hemispheres 1 to 2 mm. beyond the cerebellum, when the head is supposed to be so

* Some of these photographs represent the brain before removal from the skull, and some before the removal of the dura.

* For the latter I am indebted to Dr. W. A. Conklin, Superintendent of the Menagerie in Central Park; for the former to Mr. A. E. Brown, Superintendent of the Philadelphia Zoological Gardens, and to Dr. H. C. Chapman, one of the Directors and formerly Prosector of the Zoological Society. It was supposed by Mr. Brown to be about four years old. Its weight, the day after death, was 6.7 kilograms (14 lbs. 13 oz. avoird.); its total length, with the legs extended as if standing, was 75 cm. (about 29.5 inches), and the spread of the aris 102 cm. (about 40 inches).

placed that the eyes look horizontally forward. There has been considerable discussion among anatomists upon this point, since the cerebellum is covered in man and not in the lower mammalia. I have never permitted myself to express or even form an opinion, because a brain removed in the usual way and hardened upon a flat surface inevitably loses its shape; indeed, the evidence of the nature and extent of this distortion is furnished by all the published figures of anthropoid brains which have come under my notice. In reproducing here the leading outlines of a figure of a chimpanzee's brain from the paper of an eminent American anatomist, and in asking a comparison between them and the similar outlines of the brain hardened *in situ*, I desire both to indicate the fact of the covering of the cerebellum and to illustrate the value of the method. That the comparison is made from no motive of unfriendly criticism may appear from the similar contrast between the human brain

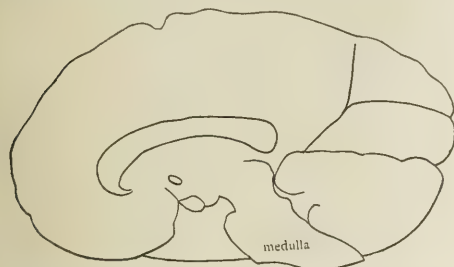


FIG. 43.—HUMAN BRAIN hardened while resting on its base; reduced.

hardened *in situ* (Fig. 42) and one which I prepared twelve years ago according to the method commonly employed.

(To be concluded.)

Original Communications.

ON THE VALUE OF INTERNAL ŒSOPHAGOTOMY IN THE TREATMENT OF CICATRICAL STRICTURE.

By HENRY B. SANDS, M. D.,

PROFESSOR OF THE PRACTICE OF SURGERY IN THE COLLEGE OF PHYSICIANS
AND SURGEONS, NEW YORK; SURGEON TO THE ROOSEVELT HOSPITAL.

(Concluded from page 157.)

The most difficult problem connected with the operation is that of exactly regulating the depth of any given incision. I believe that this can be done only by distending the stricture at the time when the knife is applied to it. On this principle I have devised the simple œsophagotome represented in the accompanying figure.

The shank of the instrument, which is fifteen inches and a half in length and four millimetres in diameter, is a flexible tube, made of narrow, spiral steel plate, secured within by two pieces of fine wire, in order to prevent stretching or separation of the spiral coil. The instrument is provided with a variable number of steel bulbs, each bulb being fur-

nished with a corresponding knife-blade. The bulb is firmly fastened by a screw to the distal end of the shank, and the knife is attached to an inner flexible steel rod, manipulated by a thumb-screw at the proximal end of the instrument. By turning this screw, the knife is drawn out from its concealed position within the bulb, the back of the blade sliding over a firm inclined plane. An index on a dial-plate indicates the amount of projection of the blade, the maximum projection being two millimetres and a half. A small sliding ring on the spiral tube is used to indicate the distance of the stricture from the incisor teeth. I selected the metallic spiral tube for the shank of the instrument, because it combines flexibility with strength. The bulb being conical, the operator can readily perceive when it comes in contact with the stricture, before he projects the blade. In operating, a bulb must be employed which exactly fits the stricture; the depth of the incision will then just equal the distance to which the blade is projected by the action of the screw in the handle.*

The subsequent progress of the case may be given in the following brief extracts from my note-book:

June 15th.—Stricture contracted to 15 F. Introduced œsophagotome with bulb No. 15; passed bulb just beyond the stricture, projected blade two millimetres and a half, and incised the resisting tissue in the posterior median line. The operation was nearly painless, and only a few drops of blood followed the incision. The wound was allowed to remain undisturbed for twenty-four hours, the patient meanwhile being nourished by rectal enemata. These seemed to cause pain in the abdomen, and were therefore discontinued on the day after the operation, the child being permitted to swallow milk, which she did without pain. On the same day dilatation was resumed, and the stricture was found to admit No. 19.

26th.—Daily introduction of elastic bougie since last date has failed to accomplish any further dilatation. Incised stricture on right side to a depth of two millimetres, using bulb No. 19.

29th.—Nothing having been gained by the last operation, the same instrument was introduced, and an incision two millimetres and a half in depth was made obliquely backward and toward the left side. Considerable resistance was offered to the knife, and much soreness followed the operation, rendering dilatation unusually painful. Although a very few drops of blood escaped when the incision was made, the bougie used during the succeeding week was always found stained with blood on being withdrawn.

July 12th.—Dilatation arrested at 23. Arming the œsophagotome with a bulb of this size, I introduced it as before, and made an incision backward and toward the right side, two millimetres in depth. The knife encountered very little resistance, and the operation was followed by slight hæmorrhage, the blood expectorated being about half an ounce.

23d.—Dilatation has reached No. 26, and patient is allowed, for the first time, to take solid food, which she swallows with-



* The instrument is made by Messrs. G. Tiemann & Co.

out difficulty. It may be remarked, incidentally, that no subsequent trouble was experienced in swallowing ordinary food.

August 1st.—Dilatation has not gone beyond No. 27. With bulb of this size made an incision in posterior median line. Depth, two millimetres.

20th.—Dilatation reached 31 on August 12, but, treatment having been suspended for a week, it was ascertained that the stricture had contracted to 27. To-day, using instrument with bulb 27, incised in posterior median line to a depth of two millimetres. I had now determined to make all the incisions that might be required, as far as possible, in the same plane, with the object of gradually and safely effecting complete division of the stricture-tissue, or of rendering it so thin that it could offer no obstacle to dilatation.

October 7th.—Limit of dilatation 34. Since last date treatment was once suspended for eighteen days, when contraction took place from 34 to 26. Made an incision in posterior median line, with bulb 34, projecting the blade two millimetres.

31st.—Dilatation reached 39, beyond which point it was not thought best to carry it.

November 19th.—Patient started for home, being in excellent health, and weighing 62½ pounds, having gained 21½ pounds since treatment was commenced, nine months ago.

In a letter dated January 4, 1884, Dr. Doughty writes that "there is no evidence of a tendency to recontraction, and the function of the œsophagus is as perfect as it was before the injury was inflicted." Bougies are still employed, however, in the hope of obtaining a radical cure. I have neglected to state that, before the child left New York, there were signs of catarrhal inflammation in the neighborhood of the stricture, the bougies, when withdrawn, being stained with a little pus. This symptom has since disappeared.

I am not willing to assert that in the case I have narrated a permanent cure has been effected, but I think it may be affirmed that the treatment pursued has been successful in preserving the child's life and in restoring her to comparative health and comfort. Should dilatation fail to prevent recontraction, I would not hesitate to resort again to internal œsophagotomy.

The limits of this paper forbid any attempt to consider fully the general subject of treatment of cicatricial narrowing of the œsophagus; yet a brief enumeration of the several methods at our disposal may be profitable by helping us to estimate the relative value of the operation now under discussion:

1. Gradual dilatation is usually, and, in my opinion, justly, regarded as the safest and best mode of treatment, whenever it is practicable. It is much to be regretted that this method is not always resorted to, as a preventive measure, or in the incipient stage of the disease, before cicatrization has taken place. It is a fact, however, that the surgeon's aid is rarely sought until the stricture has become narrow and deglutition difficult. I have little doubt that, in many cases, the formation of a stricture might be obviated by the frequent introduction of a full-sized bougie while the healing process is going on; and I believe it should be the rule to commence such treatment within a week or ten days after the injury has been received.

If a stricture is impermeable to instruments, dilatation is, of course, impossible; but, even when bougies can be readily inserted, dilatation is not always successful, as some have maintained, in restoring the distensibility of the con-

tracted parts. This fact is well shown in the case I have described, in which this treatment was faithfully pursued almost daily during the long period of five months. Nor is the introduction of dilating instruments always safe, especially when the stricture is narrow. I am able to recall two cases occurring in my own practice in which an abscess was caused by what I thought at the time to be a cautious use of an elastic bougie. One of these patients recovered, the other died; the fatal event being partially attributed to an accidental perforation of the œsophagus, which led to deep-seated suppuration. A similar accident occurred in the hands of M. Maisonneuve, who perforated the œsophageal wall with a hollow sound; and, believing that the instrument had entered the stomach, injected a quantity of beef-tea into the posterior mediastinum, causing the patient's death on the following day. Finally, treatment by dilatation often requires to be continued indefinitely in order to prevent recontraction; and, as in the case of urethral stricture, persons suffering from stricture of the œsophagus are notoriously prone to neglect themselves, avoiding dilatation until it becomes difficult or impossible.

2. I have already stated, at some length, what I believe to be the indications for performing internal œsophagotomy. The operation has been too warmly advocated by some who have succeeded with it, and too often depreciated by others who lack the experience needed to give weight to their opinions. The number of cases in which the operation has been performed is so small that its value can not be determined by statistics; but the recovery of nine out of twelve patients in whom this procedure has been carried out with beneficial results suffices to shield it from condemnation, and to claim for it serious consideration. The case I have recorded is an example of the class in which the operation may be regarded as proper. When the stricture is narrow, yet permeable, is of slight longitudinal extent, not exceeding, perhaps, a centimetre, and can not be dilated to a size sufficient to permit easy deglutition, I believe the operation of internal œsophagotomy to be the most hopeful expedient at present within our reach. I admit that it can not be performed without some risk, which, indeed, it may be impossible to estimate; but this is warranted by the hopeless character of the disease, and by the results of the alternative operation of gastrostomy. Perhaps the danger attending it may be diminished by proceeding in the cautious manner I have described, so as to avoid injuring any of the important parts which lie outside the œsophagus. The amount of benefit to be derived from the operation will depend on the form and extent of the existing lesion. If the stricture is occasioned by a narrow ring of fibrous tissue, or by a valve-like membrane, a radical cure will probably ensue when this has been divided.* In most cases, however, the operation will prove only an aid to dilatation, rendering this practicable, and perhaps occasionally successful in accomplishing a radical cure. In proportion to the length and induration of the stricture, the utility of internal œsophagotomy will diminish, and in many cases it would be obviously unwise to attempt it.

* *I*vide Case by Roe, "Med. Record," vol. xxii, p. 638.

3. Boeckel* has recently reported two cases of impermeable stricture which he claims to have cured by electrolysis. An œsophageal tube, armed at its distal extremity with a small ball of copper, was introduced down to the stricture, and then connected by means of a wire with the negative pole of a galvanic battery, the plate connected with the positive pole being placed over the eighth rib, a little to the left of the spinal column. In one case, after three applications of from two to five minutes' duration, a bougie (No. 13) was passed through the stricture, which, after the tenth application, readily yielded to dilatation. In the other case, a bougie (No. 6) entered the stricture after a single application, larger bougies passing at every subsequent sitting. I am unable to determine the value of this novel method of treatment, but am inclined to consider as dangerous any such attempt to penetrate a stricture which will not admit a guide.

4. Strictures situated in the region of the neck, which are either impassable or can not be dilated, have been sometimes treated by external œsophagotomy, the operation having usually been undertaken with the view of establishing a fistula through which the patient may be fed by means of a stomach-tube introduced through the fistula and into the stomach. Mackenzie† has collected five cases, in four of which the operation was followed by death at periods varying from twenty-two hours to eight days. The fifth patient (Bryk's)‡ is reported as having been alive at the end of seven weeks; a later account of this patient, however, is given by von Mosengeil,§ who states that the case terminated fatally from pyæmia six months after the operation. In this case the œsophagus was opened above the stricture, which was three centimetres and a half in length, and was situated just below the level of the upper border of the sternum. It was treated by dilatation, and could be passed only by instruments introduced through the fistula; these caused severe pain, frequent hæmorrhage, and finally a deep-seated abscess. In another case (Horsey's||) the œsophagus was likewise opened above the stricture, which was found to be impassable. No encouragement, therefore, is afforded to repeat this operation with the object of establishing a permanent fistula, as there is no certainty that an opening can be made below the seat of obstruction. If the patient is doomed always to be fed through an artificial operation, gastrotomy is the operation which should be selected, as it secures a ready access to the alimentary canal below the stricture, and places the fistula in a situation where it can be easily hidden from view.

But evidence can be brought to show that external œsophagotomy may be of great service by enabling us to deal successfully with strictures that are impermeable to instruments introduced through the mouth. Within the past year Gussenbauer^ has published an account of two cases of deep-seated stricture in which he achieved success

by a method he calls combined œsophagotomy. The first case was that of a woman, twenty-six years old, who suffered from a light stricture caused by swallowing sulphuric acid. The stricture extended from the cricoid cartilage to the bifurcation of the trachea, and, at the time of operation, was impassable to all instruments introduced through the mouth. The œsophagus was laid open by an external incision; and, when the margins of the wound were held apart, the operator passed a probe downward a distance of eight centimetres, where it was arrested, at the point of greatest constriction, opposite the tracheal bifurcation. He finally succeeded in passing through the stricture a probe one millimetre in diameter, and then a very fine-grooved director, upon which, with a narrow-bladed herniotome, he incised the cicatricial tissue in two directions, namely, forward toward the right and forward toward the left side. An elastic catheter, eight millimetres in diameter, was now introduced through the wound and into the stomach, and was retained until the fifth day, for the purpose of increasing the dilatation of the stricture and of injecting fluid food. It was then removed; and, until the fistula closed, three weeks after the operation, the patient was fed by means of the stomach-tube introduced through the mouth. A week later, when she left the hospital, she could swallow solids without difficulty, and could herself readily pass a bougie twelve millimetres in diameter. Neglecting to follow the advice she had received, to continue treatment by dilatation, she returned to the hospital three months subsequently, in the same condition as that first described, so that the operation had to be repeated. The wound in the neck healed at the end of three months, and when the patient was last seen, fourteen months after the second operation, the stricture admitted a bougie twelve millimetres in diameter. During the interval, however, she had suffered considerably in consequence of failure to practice frequent dilatation; and it seemed probable that this treatment would be required indefinitely in order to guard against recontraction.

The second case was that of a child, two years and a half old, who had become greatly reduced in consequence of a stricture due to the action of carbolie acid which had been swallowed two weeks after birth.* Before the operation, a bougie, three millimetres in diameter, was arrested at a point one centimetre below the cricoid cartilage; one, two millimetres in diameter, descended to the level of the manubrium sterni, while no instrument could be made to enter the narrowest constriction, which was near the cardiac orifice. By an operation like the one already described, the strictures were incised, the incisions in the cardiac structure, which lay nine centimetres below the opening in the neck, being two millimetres in depth and six millimetres in length. The external wound closed in thirty-five days; treatment by dilatation was practiced, and, when the child was discharged from the hospital a week afterward, she was able to swallow solid food, and a bougie having a diameter of ten millimetres could be passed into the stomach. After the lapse of a year, when the case was reported, the patient still remained well, dilatation being continued by passing bougies once a week.

* "Gazette médicale de Strasbourg," 1883, No. 2.

† "Am. Jour. of the Med. Sci.," 1883, vol. lxxv, p. 420.

‡ "Wiener med. Wochenschrift," 1877, Nos. 40-45.

§ "Centralblatt für Chirurgie," 1878, p. 59.

|| "Am. Jour. of the Med. Sci.," 1876, vol. lxxii, p. 114.

^ "Zeitschrift für Heilkunde," Bd. iv, 1863, p. 33.

A third case, in which a similar operation was successfully performed, has just been recorded by Bergmann.* In this instance the stricture, which was caused by the action of oxalic acid, was situated in the neck, at the level of the third tracheal ring. The patient was an adult; and, although before the operation the stricture appeared to be impermeable, it was successfully penetrated after the parts were exposed to view; and the division of a valvular cicatricial fold with a tenotomy knife enabled the operator to pass a full-sized œsophageal bougie into the stomach. The opening in the neck healed at the end of five weeks, and the patient, when exhibited three months after the operation, at a meeting of the Berlin Medical Society held last October, was able to pass easily a full-sized bougie.

5. Gastrostomy, when performed merely with the intention of establishing permanently an artificial opening in the stomach, is at present regarded with considerable favor; but it can never be anything more than a last resort in cases otherwise hopeless. Alsborg's† statistics, which are the most complete I have been able to find, show that gastrostomy has been performed in nineteen cases of cicatricial stricture. Ten of these patients died within the first few days, mainly from peritonitis; four survived, respectively, seven, eight, fifteen, and eighteen months, while five were supposed to be living at the time of the report. Probably these are the cases alluded to by Lefort,‡ who has recently said that five persons were known to be alive at the following periods after operation, namely, four months and a half, eight months, twenty months, two years, and three years. These results justify a resort to the operation in certain cases, and it is reasonable to hope that, with increasing experience, the percentage of mortality attending it may be considerably reduced.

Finally, within the past year, Bergmann* has achieved a brilliant success in the treatment of a deep-seated stricture by a method which is both ingenious and original. Already Schede had proposed, and Trendelenburg had attempted, but in vain, the dilatation of an œsophageal stricture by means of instruments introduced through a gastric fistula previously established. Bergmann's patient was a man, forty-four years of age, who had an impassable stricture, forty centimetres from the incisor teeth, due to the action of caustic potash. Gastrostomy was performed on January 29, 1883, and recovery took place without accident. But it was found impossible to prevent a constant escape of the contents of the stomach; and the patient's condition seems to have been very miserable. It was therefore determined to attempt the removal of the stricture. After several trials, the œsophagus was successfully explored by introducing a sound through the mouth while the forefinger was pushed upward through the cardiac orifice; a membranous septum was then discovered, separating the sound from the finger. This was too thick and firm to allow safe and easy perforation by the sound, while the close proximity of the heart and the descending aorta for-

bade an attempt to divide it with a knife. The obstructing membrane was at last safely perforated by the compressing action of a metal clamp, the blades of which were passed through the cardiac orifice to the seat of stricture and made to grasp the end of the sound, this being pressed against the septum so as bring it between the jaws of the clamp. Perforation having been accomplished, the opening was dilated at first with pieces of compressed sponge, and afterward with sounds, until it admitted a bougie one inch in diameter. On May 21st the artificial opening in the stomach was closed by a plastic operation, the function of deglutition having been completely restored. The patient, when exhibited on October 10th, was in excellent health, and was able to introduce a full-sized sound into the stomach. Meanwhile, treatment by dilatation was being continued.

On reviewing the whole subject, we may conclude that certain forms of œsophageal stricture, which have heretofore proved unmanageable, are no longer beyond the reach of surgical art; and that, in some of these, the internal œsophagotomy is capable, not only of saving life, but also of re-establishing the function of deglutition, so essential to its enjoyment.

ELECTRIZATION OF THE SYMPATHETIC AND PNEUMOGASTRIC NERVES,

WITH SIMULTANEOUS

BILATERAL COMPRESSION OF THE CAROTIDS.

By J. LEONARD CORNING, M. D.,
NEW YORK.

ONE of the most favorable localities for *directly* influencing the functions of the brain is situated in the neck. Owing to the contiguity of important anatomical features in the cervical region, we are enabled, by appropriate means, to lay hold simultaneously upon three great physiological principles, and to appropriate the same to the ends of rational therapy.

At a point situated between the angle of the lower jaw and the hyoid bone, on the one hand, and between the internal border of the sterno-cleido-mastoid muscle and the continuation of the tracheal line, on the other, are situated: 1. The internal carotid; 2, the pneumogastric nerve; 3, the sympathetic nerve. Besides these important structures, we have the jugular veins, adjacent subsidiary nerve-stems, etc.

First Proposition.—The ramifications of the internal carotids afford the principal blood-supply of the cortical areas. If that blood-supply be artificially varied, by compression applied to the arterial stem, a commensurate modification of the functions of the higher centers ensues. The extensity and intensity of cortical function are, to be brief, in a certain sense dependent upon the degree of sanguineous irrigation.

The evidence in favor of this proposition is overwhelming, and has been cited by me so often during the past three years that I shall abstain from further repetition of what must now be accepted as an axiom of physiology.

Second Proposition.—The pneumogastric, so far as its effect upon the heart is concerned, belongs in the category of the so-called "regulating" nerves,

* "Deutsche med. Wochenschrift," October 24, 1883.

† Langenbeck's "Archiv," vol. xxviii, p. 75.

‡ "Gazette des hôpitaux," 1883, p. 714.

* "Deutsche med. Wochenschrift," October 24, 1883.

When the pneumogastric is excited either by mechanical means (pressure), chemically, or electrically, the frequency of the heart's action is diminished. Where the excitation is very severe, it is possible to cause cessation of the latter (Ed. Weber).

After the commencement of the excitation, a short time elapses before the retarding influence upon the cardiac action begins ("Latent Stage" of Donders and Prahl).

Third Proposition.—The sympathetic nerve has a direct modifying influence upon the circulation, metamorphosis (nutrition), and calorification of the organs and histological elements to which it is distributed.

When the cervical sympathetic is excited by the galvanic current, for example, the following phenomena are observed: 1. Dilatation of the pupil and protrusion of the eyeball; 2. Contraction of the vessels and diminution of

physiology, it is evident that, if we could diminish the caliber of the two arteries which supply by far the greater amount of blood to the brain, and at one and the same time excite the pneumogastric and sympathetic nerves, we should be able to exert a very complete physiological control over the metamorphosis of the organ. With the object of obtaining this threefold end, I have devised certain electrical attachments to an instrument, previously designed by me for simple, temporary compression of the carotids.

As this instrument may be unknown to some, I will give a brief description of its construction and method of application.

The chief features of this appliance are two curved metallic armatures, to each of the extremities of which is attached a small sponge electrode. These sponge electrodes are insulated by means of hard rubber plates from the metal armatures, to which they are secured by a simple slide. Moreover, they can be detached when it is desired to employ simple compression, without electrization of the nerves. To each of the electrodes is attached a small conducting cord. These conducting cords unite in one common stem, so that the polarity of both electrodes is the same. The other end of the stem is secured to one of the poles of a galvanic or faradaic battery, as required.

It is possible by means of a screw, provided with a detachable key, to place the electrodes at any desired angle. The object of this device is to enable the operator to exercise pressure upon the carotids in an oblique direction, so as to press the latter away from the jugular vein, and in the direction of the spinal column. By this means it is possible to reduce venous compression to a minimum, except where undue pressure is employed.

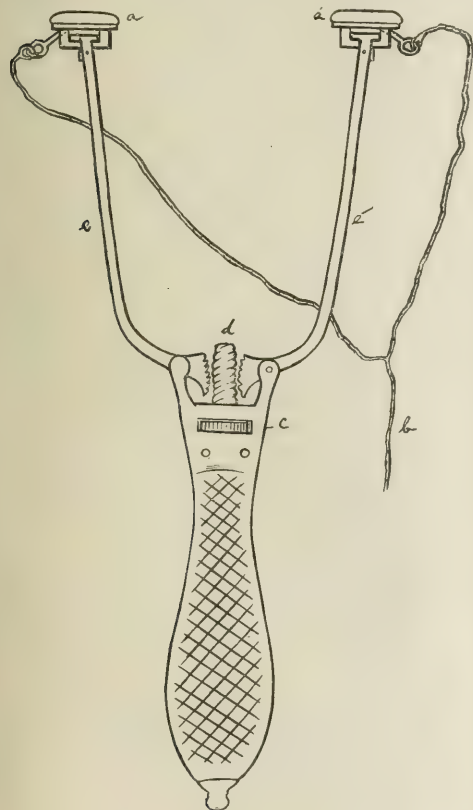


FIG. 1.—*a a'*, insulated sponge electrodes in connection with the bifurcated conducting wire *b*; *c*, milled wheel, the rotation of which causes the screw *d* to act upon the armatures *c c'*, thus enabling the operator to expand or approximate the latter at will.

temperature in the corresponding half of the face and brain (*Vide* the experiments of Nothnagel, Claude Bernard, Brown-Séquard, and others).

Granting that the preceding propositions embody sound



FIG. 2.—*A*, differential calorimeter, connected with the thermo-electric piles *d d'* by means of the conducting wires *e e'*. *B*, galvanic battery connected with the electro-compressor *C* by means of the bifurcated conducting wire *f*. The electrode at the extremity of the other conducting wire is placed on the neck.

The disengaged extremities of the curved armatures are attached to a handle. This handle is pierced by an Archimedean screw so arranged that, by simply rotating a milled wheel, the armatures can be extended or approximated at

will. An exceedingly fine adjustment is thus rendered possible.

The method of employing the instrument just described is exceedingly simple. The patient, if in bed, is placed in a horizontal and semi-dorsal position, with the head supported by a cushion beneath the neck, in such a manner as to allow the former to fall slightly backward, while the cervical vertebrae are protruded anteriorly. The operator then takes his place by the bedside, his left side being turned toward the patient. Then, having with the index-finger and thumb ascertained by careful exploration the exact position of the carotids, he proceeds, after accurately adjusting the armatures, to apply the instrument in such wise that the electrodes will press the arteries away from the pneumogastric nerve and jugular vein in the direction of the spinal column. In applying the instrument, it should be held in the right hand, the handle of the same forming a perpendicular to the arteries. By pressing the left hand firmly against the posterior portion of the neck, the operator is enabled to execute any counter-pressure which may be required, and at the same time to contribute to the support of the head in the desired position. Compression should, however, never be carried so far as to cause entire closure of the lumina of both arteries; such a procedure may cause convulsions, as the anastomotic facilities at the circle of Willis are usually unequal to these unwonted circulatory exigencies. This contingency is, however, not liable to arise, as the degree of pulsation in the temporal arteries affords reliable information as to the extent of the circulatory obstruction.

When the instrument has been properly adjusted, an assistant applies the disengaged electrode (usually the positive) over the posterior aspect of the cervical vertebrae.

All being in readiness, the strength of the battery is gradually increased.

It is impossible to determine in advance how many cells may be required, as this will depend greatly upon the strength of the battery, the thickness of the cervical adipose tissue, and the degree of compression employed. The greater the amount of compression the less the strength of the current should be, and *vice versa*.

Care should be exercised to avoid dizziness or syncope, and the strength of the current and degree of pressure should at all times be regulated with the utmost nicety. Sudden variations in either of these factors are to be carefully avoided.

By reference to the physiological proposition at the beginning of this article it will be seen that we accomplish simultaneously a threefold end by this method of treatment, namely: (1) Diminution of the amount and pressure of the cortical blood-stream; (2) contraction of the cerebral capillaries; and (3) retardation of the heart's action (*when currents of considerable strength are employed*).

Besides these results, it is extremely probable, judging from experimental researches, that a *direct* limitation of the processes of intra-cellular activity is also attained.

Theoretically, a more perfect method of limiting cerebral metamorphosis can hardly be imagined. The advantages of this mode of treatment are, moreover, demonstrated

in practice, particularly where we have to deal with insufficiency of the vaso-motor mechanism.

Thus, in congestive headache (angio-paralytic form of migraine) its effects are positively magical. Such cases may frequently be cured in the space of a few moments by resort to this mode of treatment. I know of no remedy at all comparable with this.

I have great hopes also that this means of treatment may prove of value in epilepsy, although my experience with it in this connection is still too limited to express a positive opinion as to its ultimate value as a therapeutic measure in this disease.

On *a priori* grounds, I am inclined to anticipate good results from its employment in the first stages of general paralysis of the insane. I am at present about to engage in some researches as to its applicability in this connection.

As to the current to be employed, my experience thus far leads me to give the preference to the galvanic. Sometimes the interrupted galvanic current may be employed, but under such circumstances the current should not be too strong.

Besides the more obvious physiological effects already referred to, I have noticed the following phenomena in connection with the procedure just described: 1. Dilatation of the pupil. 2. Drowsiness. 3. Dizziness (where too great pressure or excessively strong currents are employed). 4. Drooping of the eyelids. 5. Retardation of the heart's action (where strong currents are used). 6. Pallor about the lips and upper portion of the face. 7. Muscular weakness, as proved by the dynamometer; the subject, if standing, complains of weakness in the knees. 8. If the compression and strength of the current be great, syncope may be produced. 9. Diminution of the temperature over the parietal bones. Lombard's thermo-electric differential calorimeter shows a very considerable difference between the peripheral temperature and that of the head. 10. Very interesting is the observation that the primary stage of excitement incident to etherization is cut short by resort to this method, and the amount of the anæsthetic required proportionately reduced.

The location of the point in the neck which I have thus far adopted as being the best suited to this method of treatment is described at the beginning of this article.

The sudden cardiac depression, so much feared by some of the opponents of galvanization of the sympathetic, is easily avoided by proper caution as to the strength of the current.

One of the great advantages of this method of treatment consists in the possibility which it affords of employing comparatively weak currents, as well as very moderate arterial pressure.

From my own observations, I can not help believing that this method of treatment represents a substantial advance in electro-therapeutics.

Galvanization of the sympathetic is far more effectual when thus employed than when used without simultaneous compression of the arterial stems. The reason for this is plain. Owing to the reduced arterial tension in the smaller vessels, consequent upon compression of the main trunks

(carotids), it is far easier for the muscular coats of the former to contract, as the resistance to be overcome is considerably diminished.

It is hardly necessary to draw attention to the solid physiological basis upon which this method of treatment is based.

When, however, as in this instance, both physiology and empiricism coincide, we have a strong case.

A CONTRIBUTION TO THE TREATMENT OF FRACTURE OF THE SURGICAL NECK OF THE HUMERUS.

By W. T. OPPENHEIMER, M. D.,
HOUSE SURGEON TO BELLEVUE HOSPITAL.

O. G., a strong, healthy man, aged thirty-five, was admitted to Bellevue Hospital on the third of November, 1883. When brought in he was in a state of shock, but rallied promptly under stimulation, and gave the following history:

That afternoon, while standing on a scaffold erected near the ceiling of the third floor of a building, for the purpose of placing a large iron wheel upon a shaft, the weight of the wheel caused the structure to give way, and he fell about forty feet, striking his arm across a wooden railing which surrounded a hatchway in one of the floors below.

An examination revealed the presence of a lacerated wound about four inches in length, occupying the central and upper portion of the axilla on the right side, communicating with the shoulder joint. There was a compound and comminuted fracture of the surgical neck of the humerus, and the short head of the biceps was torn across.

There was a general oozing of blood from the wound, but no large vessel had been injured. Two ribs were also found to be fractured on the same side. The axilla was shaved, and the wound thoroughly washed out with a solution of bichloride of mercury, one part to two thousand.

Two large rubber drainage-tubes were then inserted into the bottom of the wound through two counter-openings, one on the side of the chest, and the other on the inner side of the arm, below the original wound.

The original wound was then closed with a continuous suture of carbolyzed catgut, and a thorough antiseptic dressing applied.

A strong plaster-of-Paris jacket, reaching from the hip-bones to within three inches of the axilla, was then applied to the trunk, while one end of three stout bands of sheet-iron was incorporated into its different layers during the application. The first of these bands was placed at the upper margin of the jacket, the second in the middle, and the third at its lower border.

The fracture was then reduced, the arm placed in a comfortable position, and a plaster dressing applied so as to completely encircle the arm from the wrist to a point opposite the upper band of sheet-iron projecting from the side of the body-splint. Above this point the arm-splint was arranged in the form of a gutter, so as completely to cover the outer aspect and top of the shoulder.

The projecting ends of the bands of sheet-iron were now incorporated in the arm-splint by a few additional turns of the plaster roller in the following manner:

The upper one was bent around the front of the arm three inches below the axilla, so as to hold the arm about three inches from the body at that point.

The middle one passed around the back side of the elbow joint, so as to keep the elbow about five inches from the trunk,

while the lower one passed under the wrist in such a way as to keep it about two inches from the anterior superior spinous process of the ilium, and allow the hand to rest upon the groin (see cut). As soon as the dressing had hardened suffi-



ciently, the edges of the plaster cap covering the shoulder were perforated with a number of openings, into which broad bands of muslin were fastened, and these, carried through the opposite axilla and tied, gave additional security to this part of the dressing.

The patient could now change his position in bed at will, without assistance, without pain, and without in any degree disturbing the fracture.

The wound being at the apex of a triangle having the body and the inner aspect of the arm for its sides, and the upper iron band for its base, the dressings could be changed at any time without displacing the fracture.

The first dressing was changed on the seventh day from the injury.

The original wound had healed throughout by first intention, and, as there had been no discharge from the drainage-tubes, they were removed.

The second dressing remained on until the patient was able to get out of bed, at the end of the third week.

The whole splint was removed at the end of the fifth week, and the shoulder supported with a simple spica bandage and sling.

The fracture was found to be firmly united without deformity, and the motions of the joint were in every way satisfactory.

I attribute the success of the case entirely to the complete immobility of the parts and the absolute rest obtained by the peculiar arrangement of the dressing.

I believe that a similar dressing will be found to be of great utility, not only in the management of fractures about the upper articular extremity of the humerus, but also for those at the elbow joint, together with some of the more difficult fractures of the clavicle, especially where the patient is willing to bear the annoyance of a somewhat heavy apparatus for the sake of avoiding the deformity which so often follows such injuries.

COCA.

By H. D. HICKS, M. D.,

BOSTON.

THOUGH several years have passed since coca has been introduced into medicine, I find, upon inquiry among my fellow-physicians, that its use is extremely limited. Many druggists do not keep it in stock, saying that they have no call for it. Some have obtained it for me, the only one prescribing it among the physicians sending recipes to their establishments, and I have found a few that confessed ignorance as to both its existence and uses.

I have used it both personally and in my practice, and find it of great service in the following conditions:

To prevent and relieve fatigue.

In those cases of backache accompanied by high-colored urine with excessive amounts of urates and uric acid.

In short breathing dependent upon weakness of the muscles of respiration.

Palpitation of the heart, without valvular lesion, due to dilatation or to weakness of the heart muscle.

It renews the vigor of the intellect, and relieves mental exhaustion, rendering the flow of thought more easy and the reasoning power more vigorous.

It dissipates "the blues," leaving the mind calm. By its use the depression following an indulgence in alcoholic liquors is relieved, and it invigorates the exhausted sexual function due to excessive venery.

It destroys the craving for alcohol, and, in small doses, is useful in sick headache and headache resulting from over-exertion. Its habitual use as a part of the daily diet conduces to mental clearness and activity, freedom from fatigue, and sound sleep.

I have to relate three instances in which its action seems to me remarkable:

CASE I.—The first case is my own. When my attention was first called to the article, great stress was laid upon its power of preventing and relieving fatigue. At that time I was accustomed to take long walks about the country, and always came home quite fatigued. I procured some of the coca leaves and determined to give it a thorough trial. One fine autumn afternoon I started out and walked to a town eight or ten miles distant, and, without resting, began the homeward journey, at about one third the distance of which I became as thoroughly exhausted as I ever remember to have been in my life. Literally, I was unable to go farther, my back and loins and the muscles of my legs being lame and painful. I had with me about one half or three quarters of an ounce of coca leaves, which I proceeded to chew and swallow. In less than twenty minutes all fatigue was gone, the pain in my back and legs had fled, and I started homeward at a swinging gait, arriving there as fresh as

when I started. Ordinarily such a walk would have laid me up for two days, but the next morning saw me perfectly well and ready for another tramp. I have used it since on long tramps, with the effect of not becoming fatigued during even the longest.

CASE II.—A lady friend and patient is occupied during the months of August and September in the business of preserving the various fruits and vegetables for market. Hitherto at the end of the season she has been utterly worn out by her exertions, and an attack of illness has been the general result. During the last summer (1888), by my advice she used the fluid extract of coca whenever necessary to relieve her fatigue, and, though working harder than ever before, on account of an increased business, has by its use been enabled to pass the season without losing an appreciable amount of flesh, and without great fatigue. Previously she had been troubled with intolerable pain in the muscles of the arms and hands, which prevented sleep at night. This summer has seen a total abolition of this annoying symptom, and the nights have been passed in sound, refreshing sleep.

CASE III.—A physician, about sixty years of age, employed in clerical work, has been troubled since youth with a dilated heart without valvular lesion (the description of his symptoms is his own). The least hurry, exertion, or mental worry resulted in palpitation and dyspnea. In Boston at various periods of the year we have very damp, oppressive weather, whether warm or cool, when the air is saturated with moisture. On such days even a well man is uncomfortable, but the gentleman above mentioned dreaded these days most of all, on account of the extreme distress arising from short breath, palpitation, and also faintness. His nights for the greater part of the time were almost sleepless, three or four hours at the utmost being his daily allowance of slumber. On account of this insomnia, the hours when others slept were devoted to labor, thus aggravating the trouble.

The only thing that would alleviate the oppression was whiskey. Digitalis, even in the smallest doses, so excited the irritable heart that its action became so violent that respiration was seriously compromised. Hyoscyamus, too, was of no avail. Several times he has fallen insensible, and once or twice has been revived only with great difficulty and prolonged exertions. At the periods of attack of palpitation and dyspnea the stomach was unable to digest food.

On the whole, his condition was serious, and, though he was able to attend to his work, he expected at any moment to be taken away.

About two months since I recommended him to take the coca, and soon after he obtained both the leaves and the fluid extract. After taking it for a few days he told me, on a close, damp day, such as formerly caused him the greatest suffering, "I don't know that I have a heart." Since that time, though we have had bad weather, he tells me that he has not experienced the least trouble. From being an anxious, quiet man, he has become cheerful and companionable. His appetite has improved and he has gained flesh. He has no need for stimulants, and the craving for alcohol has left him altogether. Instead of passing the greater portion of the night in work, he spends it in sleep. To illustrate this: One night he had worked until about twelve o'clock, and thought to lie down upon the lounge, rest a few minutes, and then resume his occupation. He fell asleep, and woke up at six o'clock in the morning, the first time he had slept so long at one time for years.

I do not doubt but many of your readers can relate parallel cases. I am using it in all cases in which the balance between nourishment and waste is not maintained, and find it a valuable assistance. In regard to the dose, I think

that the one generally given on the bottles—viz., 3 j-iv—is too much. I find just as good effects from 3 ss for an adult.

Book Notices.

The Mineral Springs of the United States and Canada, with Analyses and Notes on the Prominent Spas of Europe, and a List of Seaside Resorts. By GEORGE E. WALTON, M. D., Member of the Société Française d'Hygiène, Paris; ex-President of the Academy of Medicine, Cincinnati, etc. Third Edition, Revised and much Enlarged. New York: D. Appleton & Co., 1883. Pp. xvi-468.

There is little to criticise in a book which simply professes to be a descriptive catalogue of the mineral springs of America. We can only say that Dr. Walton's book appears to us to be a very satisfactory compendium of everything relating to the different springs, including their constitution, their properties, and the means of reaching them. The preliminary matter, comprising about one third of the book, and giving various details, historical, geological, chemical, and therapeutical, in regard to springs and baths in general, is entertaining and well worth reading. It is satisfactory to note that the author has not fallen into the error, so common among writers on special subjects, of making his subject a hobby, and of vaunting mineral springs as a cure-all which would render medicine unnecessary.

A Compend of Materia Medica and Therapeutics, with especial reference to the Physiological Actions of Drugs. For the use of Medical, Dental, and Pharmaceutical Students and Practitioners. Based on the Sixth Decennial Revision of the U. S. Pharmacopœia, and including many Unofficial Remedies. By SAMUEL O. L. POTTER, M. A., M. D., Acting Assistant Surgeon, U. S. Army, etc. Philadelphia: P. Blakiston, Son & Co., 1883. Pp. 141. [Quiz Compend, No. 6. Price, \$1.]

This little book contains much that is good. It seems to be a safe book, and the questions are very suggestive. There is the same objection to it, however, that there is to all compends—students, for whom they are intended, are apt to depend too much on the information they obtain from them and to seek no further; still this one is one of the best which have come to our notice. We notice a very glaring error under the therapeutics of quinine: Ten grains of quinine and a half-grain of morphine are recommended for the abortion of acute catarrh.

A Pharmacopœia of Selected Remedies, with Therapeutic Annotations, Notes on Alimentation in Disease, Air, Massage, Electricity, and other Supplementary Remedial Agents, and a Clinical Index; arranged as a Hand-Book for Prescribers. By EDMUND A. KIEBY, M. D., M. R. C. S. E., late Physician to the City Dispensary. Sixth edition, enlarged and revised. Philadelphia: P. Blakiston, Son & Co., 1883. 4to, pp. 134. [Price, \$2.25.]

THE *raison d'être* of this book is not very obvious. There are numerous works already—pharmacopœias, dispensatories, formularies, and what not—which cover all that this one does, and more too. The book consists simply of a handsomely printed and handsomely bound formulary, the prescriptions of which are arranged in a pharmaceutical order; i. e., according to the special kind of preparation—pill, powder, or granule—ordered. In addition, there are some details upon the subject

of diet, and a few hints (for they are nothing more) upon other matters, such as electricity and massage. The whole is well illustrated with pictures of suppositories, croup-kettles, etc.

On the whole, we are sorry to see so much good typographical work expended to so little account. The prescriptions themselves are doubtless good enough, being derived from the formularies of the London hospitals; and, if they were printed in a condensed form and in an inexpensive way, they might serve a useful purpose, which in the form before us they seem not likely to fulfill.

BOOKS AND PAMPHLETS RECEIVED.

Report of the Commissioner of Health on Illuminating Gas, made to the Committee on Lamps and Gas of the Common Council of the City of Brooklyn, July 3, 1883. Pp. 409-ii.

School Hygiene. By Charles J. Lundy, M. D., etc., Detroit, On Life and its Lessons; being the Inaugural Address delivered to the Bristol Medico-Chirurgical Society, in the Session 1882-'83. By James George Davey, M. D., etc.

The Hip and its Diseases. By V. P. Gibney, M. D., Professor of Orthopædic Surgery in the New York Polyclinic, etc. New York: Bermingham & Co., 1884. Pp. 412.

A Manual of Medical Jurisprudence, with special reference to Diseases and Injuries of the Nervous System. By Allan McLane Hamilton, M. D., Consulting Physician to the Insane Asylums of New York City, etc. With Illustrations. New York: Bermingham & Co., 1883. Pp. 386.

Excessive Venery, Masturbation, and Continence: the Ætiology, Pathology, and Treatment of the Diseases resulting from Venereal Excesses, Masturbation, and Continence. By Joseph W. Howe, M. D., etc. New York: Bermingham & Co., 1884. Pp. 299.

Diseases of the Bladder, Prostate Gland, and Urethra. Including a Practical View of Urinary Diseases, Deposits, and Calculi. Illustrated by numerous Wood Engravings. Fifth Edition, revised and much enlarged throughout. By Frederick James Gant, F. R. C. S., etc. New York: Bermingham & Co., 1884. Pp. xiii-616.

A Practical Treatise on Surgical Diagnosis, designed as a Manual for Practitioners and Students in Medicine. By Ambrose L. Ranney, M. D., Professor of Practical Anatomy in the New York Post-Graduate Medical School, etc. Third Edition, thoroughly revised, enlarged, and profusely illustrated. New York: William Wood & Co., 1884. Pp. xx-608.

A System of Oral Surgery: Being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and Associate Parts. By James E. Garretson, M. D., D. D. S., Dean of the Philadelphia Dental College, etc. Illustrated with Numerous Steel Plates and Woodcuts. Fourth Edition, thoroughly revised, with additions. Philadelphia: J. B. Lippincott & Co., 1884. Pp. 1,037.

Legal Medicine. By Charles Meymott Tidy, M. B., F. C. S., etc. Vol. III. New York: William Wood & Co., 1884. Pp. xxi-321. [Wood's Library of Standard Medical Authors.] Annual Address delivered before the American Academy of Medicine at New York, October 10, 1883, by Henry O. Marey, A. M., M. D., President of the Academy.

Simulation of Insanity by the Insane. By James G. Kierman, M. D., Chicago. [Reprint from the "Alienist and Neurologist,"]

On Bedside Urine Testing, including Quantitative Albumin and Sugar. By George Oliver, M. D. Lond., M. R. C. P. Second Edition. London: H. K. Lewis, 1884. Pp. 128.

Suggestions regarding the Local Treatment of some of the Commoner Affections of the Ear. By Samuel Theobald, M. D., Baltimore. [Reprint from the "Maryland Medical Journal,"]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
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Edited by
FRANK P. FORSTER, M. D.

NEW YORK, SATURDAY, FEB. 23, 1884.

A PROPOSED NEW PHARMACOPŒIA.

THOUGHTFUL and right-minded men are generally supposed to agree that all government is a necessary evil, never to be amplified save as a necessity; but it seems occasionally as if a portion of the medical profession were straying away from this sound position, and, like the Children of Israel of old, were pining for a king. The latest example of this tendency that has come to our notice is the movement in favor of a new pharmacopœia, in furtherance of which a bill has been introduced into Congress providing for the issue of a new pharmacopœia by the Government. It is argued that the pharmacopœia ought to have the force of law. Now, there is a grain of truth in this broad proposition; but, for all legitimate purposes, any State can give the present pharmacopœia the force of law, and, for that matter, a court can do the same, as was lately exemplified in Massachusetts, where several manufacturing druggists were punished for furnishing pharmacopœical preparations that were not up to the pharmacopœial strength.

It seems to us that a standard strength and a standard purity are all that the Government can legitimately enforce in the matter of drugs, but this is not all that it might assume to do if the pharmacopœia were to be made a legal standard in the full sense of the term. In the case of most preparations, the pharmacopœia lays down detailed processes. To make it incumbent on pharmacists to adhere slavishly to these processes, however good they may be in the present state of the art, could not but act as a clog upon the advancement of pharmacy. Even if this were not the case, we can see no good object to be gained by giving legal force to the pharmacopœia, except in so far as may be necessary to provide against danger to the community from the administration of drugs of greater strength than the prescriber supposes, and to guard against fraud on the part of dealers in the matter of drugs of inferior strength or purity. Further than this there is no occasion to go, and further than this the Government can not go, in our opinion.

It is perfectly competent, of course, for the Government to assume the expense of issuing a pharmacopœia, if that is the point aimed at, but even that would be contrary to the traditions of our Government, and seems to be wholly uncalled for, as the present pharmacopœia is entirely self-supporting. It is only a little more than a year since the revision of 1880 was issued, and we understand that there is already a surplus of money in the hands of the committee, in whom the copyright is vested. But not only has the book met with this material success; it has proved a *succès d'estime*, reflecting the highest credit upon the committee and upon the state of pharmaceutical science in America. Faults it has, beyond question, as we

were not backward in pointing out, in a series of articles we published on it about a year ago, but for the most part they are trifling and not for a moment to be weighed against its great merits. It may be said of the revision of 1880 (what could never before be said of a United States pharmacopœia) that it has commanded the admiration of all competent critics, however critical, both at home and abroad. The present time seems, therefore, very inopportune, for changing the method of constituting the body of men to whom the prosecution of the work of revision is confided. It is extremely doubtful if a committee appointed by the Government would do the work even as well as the committee of 1880 did it. The point is urged, we understand, by the supporters of the bill, that the medical corps of the army, the navy, and the marine-hospital service should be largely, if not wholly, charged with the work; but it should be remembered that the present method of constituting the committee gives a liberal representation to those branches of the public service. All things considered, we must express the hope, therefore, that the profession will show its appreciation of the great amount and the creditable character of the work done for it by the committee of 1880 by declining to sanction this move to supplant the method which has been found to work so well.

VETERINARY MEDICINE IN AMERICA.

WHATEVER we, whose more particular province it is to deal with medicine in its application to the ills of human flesh, may think of the present status of our art, however lofty our aspirations may be for a state of things in which more pure science shall be mingled with it, we can scarcely lose sight of the fact that our colleagues whose work lies among the lower animals have lately given abundant signs of a determination to raise themselves and their art from the position of unmerited degradation, more or less pronounced, in which public opinion has heretofore held them. That they have already accomplished much in this direction may be gathered from the expressions of indignation which were called forth, and not from their ranks alone, when a lawyer in the employ of the Government sought to advance his case by holding one of the witnesses up to ridicule as a "horse-doctor."

The witness alluded to was none other than the founder of the "Journal of Comparative Medicine and Surgery," the perusal of a recent issue of which has suggested these reflections. The journal in question is a quarterly, now in the fifth year of its publication. During the greater part of its career it has been under the editorial control of Dr. W. A. Conklin, the Director of the Central Park Menagerie, and its pages have been the repository of many curious and valuable facts and observations that were the fruit of his labors at the park. With the January number Dr. Billings, of Boston, became connected with the journal as associate editor. Dr. Billings's accession is signalized by a vigorous editorial article entitled "The Scientific Method in Veterinary Education," in which the determination that we have alluded to is plainly manifested. We notice, also, a clever editorial article exposing the fallacy into which a Ger-

man author has fallen in attributing trichiniasis in American hogs to the "hundreds of thousands of Chinamen" employed in the pork-packing establishments of this country—the theory being that rats are frequently trichinous, that Chinamen eat rats, and so on!

When the hero of "The Diary of a Physician," having been called upon to prescribe for a pet monkey, found it difficult to suppress his sense of humiliation, while forced by poverty to obey the summons, he exemplified a feeling that can never exist save as the result of ignoring the value of knowledge of whatever sort and the dignity of the study of any branch of natural science, whether it relates directly to man or to the lowest forms of organisms, or, for that matter, to the inorganic bodies. Far, indeed, from there being any real ground for those who practice only upon the human organism to look down on their veterinary brethren, it might not be altogether to the glory of the former if a comparison were to be drawn between what the two classes have done for the advancement of the common science. When we call to mind how much pathology owes to the veterinarians, and how much of our best contemporary literature still comes from them, we must confess that it is not in the domain of comparative medicine alone that self-criticism is in place. But the state of things we have pictured has not hitherto obtained in this country. Now, however, various circumstances are at work to bring the conditions here into conformity with what is true of the Old World. One element that contributes powerfully to this end is, unquestionably, the attention which the Government has found itself forced to give to the health of domestic animals, and the consequent knowledge that the public has acquired of the intimate relations between man's health and that of his brute companions. But it is very much to the credit of the veterinarians that it can be said that not the least potent of the circumstances to which we refer is their own progressive tendency.

MINOR PARAGRAPHS.

THE YELLOW FEVER AT PENSACOLA.

We have before taken occasion to remark upon the excellent work done by the Naval Medical Society. We would now call attention to a number of papers read, and remarks made, at the November and December meetings of the society, as we find them recorded in the current number of the "Proceedings." Important papers on the subject of yellow fever were read by Dr. J. W. Ross, Dr. William Martin, and Dr. D. M. Guiteras, and Dr. A. A. Hoehling made some timely and spirited remarks, closing with the statement that, if he had added a "drop in the bucket" which should one day wash away the "commercial" ætiology and diagnosis of the disease, he would not have spoken in vain. When fear of the loss of business, he added, caused communities and their physicians to call such a disease as prevailed at Pensacola "malaria," or the "prevailing disease," and, when that failed to arrest the mortality, declare it to be non-contagious, though "infectious," it was time to raise a voice in protest.

THE NEW YORK POLYCLINIC.

We are pleased to learn that the prophecy made in this journal almost a year ago concerning the future of this clinical

school for practitioners of medicine has been fully realized. We said: "Such an amount of clinical material has never heretofore been organized and concentrated for the purpose of teaching general or special clinical medicine to practitioners, and, if the judicious management, harmonious co-operation, and energy which have gained so high a position already for this new undertaking in the direction of higher medical education are continued, the success of the movement will be permanent and complete." The Quarterly Circular Announcement of the Polyclinic gives a list of one hundred and seven physicians who have worked in the various classes as students within the first four months of the present session, making a total of two hundred and sixty-eight within the first fifteen months of the existence of the Polyclinic. The fact that the managers have purchased the commodious building heretofore occupied by them in part shows that they recognize the necessity of providing for still more work in the future. We are informed that during the summer months the changes in the building will be accomplished which will make it a most complete polyclinic school and hospital.

THE INSPECTION OF EXPORTED PORK.

A RUMOR having been received by telegraph to the effect that the French Government is now willing to admit American hog products, on condition that they pass an examination to be made at its own expense, it is said that some gentlemen who assume to speak for the pork trade regard this proposal as unsatisfactory, provided it means a microscopical examination. It seems to us foolish for this objection to be raised, and we trust that it will not be brought forward authoritatively, for it is neither founded in fairness nor calculated to convince foreign nations of our faith in our own position. We must not rest on the fact that trichinous pork is harmless when properly cured or cooked; we must exterminate trichiniasis in our hogs.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 19, 1884:

DISEASES.	Week ending Feb. 12.		Week ending Feb. 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	1	0
Typhoid Fever	8	4	21	6
Scarlet Fever	91	15	75	14
Cerebro-spinal meningitis.	13	9	6	6
Measles	62	11	70	11
Diphtheria	47	19	47	20

GLANDERS IN CHICAGO.—It is reported that the State Veterinarian discovered two cases of glanders last week in a large stable where a number of horses and mules were kept. The infected animals were ordered shot, and a rigid quarantine was established to prevent the spread of the disease if possible.

THE FOOT AND MOUTH DISEASE was said last week to be prevailing among the cattle at the quarantine station at Deering, Me., and to have been communicated to cattle in Deering and in the neighboring town of Falmouth. The report has been denied, but it has given rise to much alarm in the vicinity.

COUNTERFEIT TARTAR EMETIC.—The "Progrès médical" states that certain German chemists have put on the market a salt purporting to be tartar emetic, but really consisting of an oxalate of potassium and antimony, and warns its readers of the dangers of using such a salt.

POISONING BY WILD PARSNIP.—A case of poisoning from eating wild parsnip occurred in Danville, Pa., on Friday of last week, when two children died after having eaten the plant. A third child who tasted it was made very sick. In the two fatal cases convulsions occurred, preceded by violent pain.

DEATH FROM AN OVERDOSE OF MORPHINE.—On Wednesday, the 13th inst., Dr. J. W. Sherfy, of Brooklyn, a graduate from the Long Island College Hospital in 1861, died from the effects of morphine which he took to relieve the pain caused by a decayed tooth. He had been suffering from Bright's disease.

ST. ELIZABETH'S HOSPITAL.—It is announced that a building adjoining the hospital has been fitted up under the supervision of Dr. W. G. Wylie for the use of private patients, to which the patients of any physician in good standing may be admitted, under the rules of the hospital, and remain under his charge, if desired. In case the physician is not known at the hospital, application must be made to Dr. Wylie.

A NEW SCHOOL FOR MIDWIVES.—We understand that a bill to incorporate the New York Maternity and School of Midwifery, and to regulate the practice of midwifery in the State of New York, has been laid before the Comitia Minora of the Medical Society of the County of New York, for its consideration previous to its introduction into the Legislature. It is said also that the College of Midwifery already in operation in New York now has a bill for its incorporation before the Legislature.

COMPENSATION TO AN ARMY SURGEON.—Measures have been taken looking to a tardy act of justice in the matter of recompensing Surgeon E. P. Vollum, of the army, for the loss of his personal effects by shipwreck while in the line of duty so long ago as the year 1856. The Senate has voted Dr. Vollum the sum of \$700.

THE ARMY MEDICAL CORPS.—The Senate Committee on Military Affairs has reported a bill creating two new grades of medical officers—assistant surgeons-general, with the rank of colonel, and deputy surgeons-general, with the rank of lieutenant-colonel.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 10, 1884, to February 16, 1884:*

PERIN, GLOVER, Lieutenant-Colonel and Surgeon, Medical Director, is granted one month's leave of absence, with permission to apply at Division Headquarters, Missouri, for an extension of one month. S. O. 16, Department of Dakota, February 9, 1884.

To be assistant surgeons, with the rank of First Lieutenant, to date December 3, 1883:

William D. Dietz, Walter W. R. Fisher, William Stephenson, Adrian S. Polhenus, John L. Phillips, Reuben L. Robertson, William C. Borden, Edgar A. Mearns, Guy L. Edie, William D. Crosby, William L. Kneedler, Charles M. Gandy, Charles S. Black, James E. Pilcher, Alonzo R. Chapin. S. O., A. G. O., Washington, February 11, 1884.

BREWSTER, WILLIAM B., First Lieutenant and Assistant Surgeon. Resignation accepted to date February 7, 1884. S. O., A. G. O., Washington, February 11, 1884.

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Walla Walla, Washington Territory. S. O. 14, Department of the Columbia, February 5, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending February 16, 1884:*

COUES, S. F., Medical Director. Assigned to the Naval Medical Examining Board, Philadelphia, March 3d, as the relief of Medical Director P. J. Horwitz, who retires on that date.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, February 25th:* Medical Society of the County of New York.

Tuesday, February 26th: New York Dermatological Society (private); New York Surgical Society (private); Jersey City Pathological Society (private).

Wednesday, February 27th: New York Pathological Society; American Microscopical Society of the City of New York; Auburn (N. Y.) City Medical Association.

Thursday, February 28th: New York Academy of Medicine (Section in Obstetrics); Harlem Medical Association (private); Brooklyn Pathological Society.

OBITUARY NOTES.

DANIEL C. BURLEIGH, M. D., OF THE RETIRED LIST OF THE NAVY.—Dr. Burleigh died in Dresden, Saxony, on the 10th of January last, in his fiftieth year. He entered the navy as passed assistant surgeon in 1864, and resigned in 1869, when he settled in Franklin, N. H., where he practiced his profession until 1873. In 1874 he re-entered the navy as passed assistant surgeon, and was placed on the retired list a few years after. The last three or four years of his life were spent in Europe.

NOBLE B. PICKETT, M. D., OF GREAT BARRINGTON, MASS.—Dr. Pickett died suddenly on Tuesday, the 5th inst., in his eighty-fourth year. He was born in Sherman, Conn., and was graduated from the Medical Department of Yale College in 1834. He settled in Housatonic, a post village in Great Barrington township, in 1845, where he practiced his profession until compelled to relinquish it, a few years since, by increasing blindness.

DR. JEFFERSON S. HOWARD, OF CLAYVILLE, R. I.—Dr. Howard, a well-known and successful physician, died February 6th, at the age of fifty-one. He was a man of great ability and strong convictions, and had occupied many positions of trust and honor, both in professional and in political life.

DR. ALBERT SMITH, OF NEW ROCHELLE.—Dr. Smith died on Tuesday of this week, at the age of eighty-five. He was a graduate of the College of Physicians and Surgeons, of this city, and was in practice here a number of years ago, but retired when about fifty years old, and has since lived at New Rochelle, where he has devoted himself to various measures for the improvement of the town and its people.

JOHN HUTTON BALFOUR, M. D., F. R. S., OF EDINBURGH, died recently, at the age of seventy-five. He was dean of the medical faculty of the University of Edinburgh.

Letters to the Editor.

THE POST-GRADUATE MEDICAL SCHOOL.

February 14, 1884.

To the Editor of the New York Medical Journal:

SIR: The notice of my resignation as a member of the faculty of the New York Post-Graduate School, and of Dr. Ranney's succeeding me, is entirely incorrect. I am still the professor of the anatomy and physiology of the nervous system at that school, and Dr. Ranney has no connection with my chair of any kind whatsoever. Sincerely yours,

E. C. SPITZKA.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of February 7, 1884.

The President, R. A. CLEMMANN, M. D., in the chair.

A YEAR'S WORK IN OVARIOTOMY.—DR. WILLIAM GOODELL read a report of his cases of ovariectomy during the past year. He had had twenty-five cases, with seven deaths. Eleven of the operations were performed in the private rooms of the Hospital of the University of Pennsylvania, with one death; ten were done at the patients' own homes, with five deaths; and four at his private hospital, with one death. He attributed the majority of these deaths to three causes: 1. That he made it a rule never to doom a woman to certain death by refusing to operate on her, however forlorn the hope of her recovery might be, and three of those who died were very ill indeed, at the time of the operation, from septicæmia and purulent cysts. 2. That the women of this country, being unwilling to go to a hospital, either insisted on being tapped, which increased the risks of the radical operation, or else postponed the operation until the tumor had become very large, adhesions had formed, and the health had become greatly undermined. Out of his twenty-five cases he had had but eight without adhesions, and one of these patients died at home after a double ovariectomy, he not having seen her or treated her after the operation. 3. That five of the patients who died had been operated on at their own homes, which were so distant that he was able to see but one of them after the operation, and she did not rally, but died in eight hours, from the shock of the removal of an intra-ligamentous cyst universally adherent. The fatal case at his private hospital was one of pelvic abscess bursting into the bladder. The operation was not a difficult one, although the lower portion of the cyst had to be separated from the two layers of the broad ligament by which it was enveloped. The sole fatal case out of eleven performed at the Hospital of the University was due to hospitalism. This he deemed a good record, for the building was used as a general hospital, with many railroad-accident cases and suppurating wounds. In this hospital he always operated in one of the private rooms, where the patient was kept until all danger was over.

While acknowledging that his results were not so good as those of British ovariologists, he said that, on the other hand, it was to be said in his favor that he never refused to operate on a woman, however slim her chances of recovery. He made this statement because, according to remarks made by Dr. Sutton at the last meeting of the American Gynecological Society, Billoreh was the only one among European ovariologists who "refused to operate upon nothing that deserved the chance of life," and his success amounted to about sixty-five per cent., while one of the most successful of British ovariologists "did not remove very large tumors—viz., those which weighed from sixty to sixty-five pounds, with extensive adhesions," etc.

Out of the twenty-five cases of ovariectomy, there were twelve in which both ovaries were removed. In all these cases the second ovary was positively diseased. Yet, with a larger experience, he (Dr. Goodell) was becoming more and more inclined to remove both ovaries in all cases of malignant degeneration of one ovary; in all women who had passed the climacteric or who were approaching it, and in all cases complicated with fibroid tumor of the womb.

DR. ALBERT H. SMITH felt that Dr. Goodell was hardly right in saying that in England desperate cases were rejected. In his own experience, while in England recently, several cases which

were very desperate, and which would have been generally rejected here, were treated successfully by operation, and the patients were ready for discharge three weeks afterward. It occurred to him that the lower average temperature had much to do with the result. The thermometer was not allowed to rise above 65° F. in the room in which the patient was kept; and in Mr. Lawson Tait's cases it rarely went over 60°, and never up to 65°. Perhaps this had a good effect in preventing hyperpyrexia. The English ovariologists were also very careful as to details, especially in preventing hæmorrhage, and used an immense number of hæmostatic forceps. Ovarian cysts were remarkably common in London. Dr. B. F. DAWSON, of New York, upon invitation by the president, spoke of the English ovariologists, and alluded to what he had himself seen, while on visits to England, as to very desperate cases being treated by operation. His own late experience had been so good that he was inclined to attribute it, as well as the good results of the English operators, to absolute painstaking in the most trifling details, with absolute cleanliness; not simply antiseptics, but the utmost care throughout every step of the operation. Among other things, a very large number of hæmostatic forceps were used, so as to secure each bleeding point the moment that bleeding began. His own last six cases of laparotomy, performed this winter, two of which were very desperate in character, had been successful, and the results he felt were largely due to the avoidance of any preventable hæmorrhage and to great care through all the stages of the operation to prevent blood or fluid from the cyst escaping into the peritoneal cavity. This care was exercised throughout the "toilet of the peritonæum," and he always used a flat sponge, as Sir Spencer Wells did, inside the abdominal walls, upon the intestines, while introducing the closing suture; and the sponge was removed only when it became necessary to do so to twist the last wires. He always used napkins to fold over the edges of the abdominal incision, to prevent the oozing from the edges escaping into the peritoneal cavity or soiling the operator's fingers. He also wrapped the cyst in towels as it was withdrawn from the cavity, to guard against even a trace of fluid soiling the intestines or the wound. He clamped the pedicle temporarily when possible, and placed a napkin under the clamp before dividing and cauterizing it. Every adhesion that showed any risk of bleeding was cauterized as soon as it was separated, even when ligated. Douglas's pouch especially was sponged out until the sponges came away absolutely clean. In a recent very desperate case, one in which Dr. Emmet had expressed his sympathy with him as to its almost certain fatality, the operation occupied two hours and forty minutes, owing to painstaking observance of these details, and, although half of the uterus was removed and adhesions were numerous, calling for many ligatures and frequent use of the cautery, yet convalescence was uncomplicated and speedy.

DR. GOODELL remarked that the quotation in his paper, to which exception had been taken, referred to Mr. Tait. It was taken from a paper read last autumn before the American Gynecological Society by Dr. Sutton, who was with Mr. Tait three months. He (Dr. Goodell) had seen about a dozen ovariectomies in Great Britain; only one was a difficult case, and in that case the patient died. There he had seen patients refused on account of their age, while in this country they were not. Dr. Goodell had operated successfully on patients aged, respectively, sixty, sixty-one, sixty-two, sixty-four, sixty-five, and sixty-seven years, and some one in this city had had a successful case in a patient over eighty-three. Dr. Goodell had once operated upon a patient seventy-six years of age, of a long-lived family. This was before the days of antiseptics, and the patient died. He believed that minute attention to details was the chief element of

success. One important point was to make the abdominal incision sufficiently large to see every adhesion as it was separated, and to ligate or secure every bleeding point immediately. This required a courage which it had taken him years to attain. He always observed Sir Spencer Wells's method of placing a flat sponge beneath the abdominal walls when introducing the closing sutures. He did not like wire, but always used carbolyzed silk sutures, each eighteen inches long. After they had all been placed, the ends were twisted together into one strand on either side and caught in the bite of a pressure-forceps. The lips of the incision were then widely separated and a final search was made for any oozing, leakage, or accumulation of serum. They were then rapidly tied, and the wound was dressed. This final toilet of the peritoneum could not be made when wires were used. He now believed in the use of a drainage-tube, but he had had hard work to bring himself to the point of accepting it, and he still looked upon the tube as a foreign body—a necessary evil. He had once seen death caused in a healthy man by the simple perforation of the peritoneum, without wound of the intestine, by a small stiletto, and this had made him fearful of the effect of the presence of a drainage-tube. But he now considered that the peritoneum in the case of an ovarian cyst had, by thickening and attrition, lost much of its vulnerability, and did not resent slight causes of irritation. He occasionally resorted to the actual cautery at a black heat to stop bleeding from torn adhesions, but he preferred the pressure-forceps, the ligature, or the application of Monsell's solution. He thought there might be some truth in Dr. Smith's idea concerning the effect of the low temperature of the operating-room and of the convalescent-room. He had been struck with the absence of ill results in one operation in London by Dr. Bantock, of which he had been a spectator. The day was cold, damp, and foggy, and the operating-room was chilly, the windows being open; but the patient promptly recovered. In one case of his own, in which the extreme emaciation and prostration of the patient forbade postponement, the operation was done in severe winter weather; the steam pipes at the hospital had been frozen overnight, and, although they had been thawed out, the temperature of the operating-room was only 54°. In this case the cyst had contained colloid matter, and had burst spontaneously; all that could possibly be removed was scooped, sponged, and washed out. Much remained behind, yet the patient recovered, and afterward became quite fat. This operation was performed three years ago; both ovaries were removed, but another tumor could now be discerned in the abdomen. The patient being fat and also very sensitive, it was not possible to determine its character accurately, but he hoped it was a pedunculated fibroid of the uterus, and not a malignant tumor.

Dr. DAWSON requested Dr. Goodell to give his opinion respecting the management of the drainage-tube, and of the importance of the spray.

Dr. GOODELL, when operating in private houses, had begun to dispense with the spray. Carbolic-acid spray poisoned some patients, and he, being afraid of it, only used it when he did not consider it safe to omit it, as, for instance, in a general hospital, or when there were many spectators present. Year before last he lost one patient from its use. She had contracted kidneys. Only last week, in an operation in the Hospital of the University, the patient was profoundly affected by it, and was with difficulty restored by means of digitalis, stimulants, etc. When he omitted the spray, he used the drainage-tube more frequently. If he found in Douglas's pouch, after the sutures had been placed and the sponges removed, two or three drachms of bloody serum, and the source of this oozing could not be found, he inserted a drainage-tube; and he also used it in all cases in which there

had been peritonitis or when septic symptoms were present from a purulent cyst. Over the mouth of the tube he sprang a piece of rubber sheeting, which was folded over a sponge squeezed out of a five-per-cent. solution of carbolic acid. The sponge was examined and squeezed out every few hours, and the tube moved slightly to clear the openings and allow any accumulation of serum to escape. As soon as a moderate amount of serum escaped without any tinge of blood, the tube was removed. This generally happened within forty-eight hours, but in one case it was necessary to allow it to remain five days. He never irrigated the abdominal cavity, but he sometimes introduced the long nozzle of a hard-rubber syringe into the tube and drew out any serum that might have accumulated. When he operated in the country, and left the patient in the hands of the family physician, he tried to avoid the use of the drainage-tube as much as possible.

Dr. DAWSON had given some attention to the question of the drainage-tube. In New York two deaths had lately happened after ovariectomies, and in each case the surgeon had ascribed the fatal termination to the too early removal of the tube. Soon after these unfortunate cases he had operated and had been obliged to use the drainage-tube; on the second and third days after the operation the serum exuding from the tube was bloody. On the fourth day it was pure serum. The patient was doing well, and Dr. Dawson concluded to leave well-enough alone, and, with the result in the two other cases before him, allowed the tube to remain. He used a wire with a pledget of absorbent cotton attached to the extremity, to soak out the accumulated serum, and continued to use fresh pieces until they came away clean. The tube was evidently being walled in by a deposit of lymph around it. On the sixth day, after finding very little serum, the last pledget of cotton brought away a little yellow spot that might have been either lymph or pus. That night he discovered another trace of the same appearance, and the microscope showed it to be pus. The next day the discharge was fetid. A saltspoonful of iodoform was put into the tube every time it was cleaned, and on the tenth day it was removed and a roll of absorbent cotton saturated with iodoform was put in its place. This was replaced in a few hours with another, until all signs of pus ceased. The opening closed in forty-eight hours. The patient recovered. He would like to ask if Dr. Goodell had ever regretted removing a drainage-tube too early? Was a drainage-tube more of a foreign body on the third or fourth day than it was on the first?

Dr. W. H. PARISH had recently performed abdominal section for the removal of a fibroma of the uterus. In this case he used a drainage-tube, although he was not able to pass it down into Douglas's pouch. On the third day he noticed that the serum escaping from the tube was cloudy, and had a slight odor. On the fourth day the odor was quite objectionable, and, as the tube had evidently become separated from the abdominal cavity by the formation of a canal of lymph around it, resembling in appearance diphtheritic membrane, he decided to withdraw the tube. He washed out the canal with a two-per-cent. solution of carbolic acid. The canal soon closed, and there was no return of the offensive odor.

Dr. GOODELL could not recall the loss of a patient after the removal of a drainage-tube. He had had, however, a number of deaths while the tube was still in position, but that meant simply that the cases were complicated and difficult ones. Was not the tube itself the cause of the pus in Dr. Dawson's case? Air containing germs was, of course, admitted into the tube in the cleaning-out process, and these germs would cause decomposition of the lymph. Might not also the tube, acting as an irritating foreign body, cause pus? He introduced a stitch in such a manner, beyond the drainage-tube, as to make tension

of the skin around the tube, and this closed the opening as soon as the tube was withdrawn. He had occasionally followed the removal of the glass tube by the introduction of a rubber one of smaller caliber, but he had discontinued this practice, believing the glass tube to be the least irritating.

ABDOMINAL SECTION.—Dr. W. H. BAKER reported a case for Dr. Walter F. Atlee. Mrs. E. C., of Erie, Pa., was brought to this city by Dr. Edward Cranch. She was forty-five years of age, married, but had had no children. Her menses were regular and very abundant. She was a stout woman in excellent health. Four years ago she first noticed a tumor in the center of the abdomen. Dr. Cranch reported that the probe entered the womb the normal distance only. A multilocular cyst with thick walls and very glutinous liquid, or a fibroid tumor of the uterus, was diagnosed. The sense of fluctuation was not distinct. February 4th, after the usual preparation, the operator cut down, found a solid tumor, opened it, took out as much as possible of the contents, and got out the envelopes; the incision was about five inches in length. The tumor grew from the fundus of the uterus. It was transfixed, tied, and dropped. The patient never rallied after the operation, and died on the 6th, of shock. There was no hæmorrhage. The operation was all over in twenty-five minutes.

Dr. R. P. HARRIS saw the patient prior to and assisted in the operation. The lady had an appearance of health, was quite robust, and there was nothing in the contour or expression of her face indicative of ovarian cystoma. In a conversation with her sister and the family physician, he learned that the diseased growth was first noticed by this sister, who remarked upon the central prominence of the abdomen of the patient, who was at the time lying on her back on the floor engaged in playing with a little child. When the attention of the patient was directed to the fact that her abdomen presented a central elevation, even when flat upon her back, she readily detected the existence of something abnormal. Dr. Harris remarked to the physician that the history of the case indicated the existence of a tumor at the fundus uteri. When the morbid growth was exposed it did not present the appearance of an ovarian cyst; neither did percussion indicate the presence of fluid prior to incising the abdomen, except by a surface wave. There was no wave transmitted from hand to hand. The surface wave was found due to some ascitic fluid. As no fluid escaped by tapping, the tumor was opened and its contents were torn away in pieces, so as to reduce it sufficiently, when it was drawn through the wound, ligated at its union with the fundus uteri, and cut away. During the shelling process a considerable loss of blood took place, and the appearance of the patient was that of great prostration. The tumor had no pedicle, being sessile in its attachment to the uterus.

W. H. H. GITHENS, M. D., *Secretary.*

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of January 9, 1884.

GEORGE F. SHRADY, M. D., *President, in the chair.*

TUBERCULOSIS OF THE TESTES.—Dr. A. G. GERSTER presented the testes of three different patients which he had recently removed for acute tuberculosis. The first specimen was from a laborer, thirty-eight years old, who was recognized to have a hydrocele, but whether simple or dependent upon disease of the testicle was not at first determined. There was no known cause for the condition; he denied venereal disease. Volkmann's operation for hydrocele was successfully performed, the wound healing in a perfectly normal manner; but, five weeks after his dismissal from the hospital, the patient returned, saying that he had passed a bad night, had had a chill, and had begun to lose

flesh and strength. The testicle was then extirpated, and was found to show central tuberculosis, the hard, characteristic tubercular mass not yet having begun to break down. The second specimen showed a slightly more advanced stage of the disease, and was from a man thirty-one years of age, who had suffered acute orchitis and epididymitis of traumatic origin. Six or eight weeks after the injury the testicle was painful, swollen, and hard, the swelling extending up the cord some distance. The patient suffered chilliness and sweating, and presented a condition demanding removal of the testicle, which was done. The chief interest of the specimen related to the condition of the tunica vaginalis, which, instead of being smooth and hard, resembled very much the synovial membrane in cases of tuberculosis of the joints. There was incipient breaking down of the tuberculous deposit centrally. In the third case there had been chills, emaciation, loss of appetite, and swelling and pain of the testicle, and, on removal, the organ was found to consist almost entirely of broken-down tissue; the tunica vaginalis had become obliterated. Dr. Gerster remarked that the diagnosis could be made much earlier in these cases than was formerly done, and lead to proper treatment in the way of extirpation, whereas it used to be the practice to let the condition remain until a fistulous opening formed in the scrotum and the case reached the state falsely called hernia testis. In the discussion which followed, Dr. Gerster said that there had been no physical signs of tuberculosis in any of the other organs of the body. The other general symptoms—chills, sweats, etc.—disappeared on removal of the diseased testicles.

GENERAL MILIARY TUBERCULOSIS.—Dr. FERGUSON presented specimens showing miliary tuberculosis of the kidneys, liver, and lungs, from a man, thirty-five years of age, who was admitted to the hospital on the 19th of December, 1883. Six months previous to admission he suffered from general pains over the body, dyspnea on exertion, and at times from hæmorrhage from some part of the respiratory tract. Cough developed, but did not become continuous until a month before admission, when he had a chill, and there was then mucopurulent expectoration. Physical examination showed dullness over the upper lobe of the left lung posteriorly, and over the lower lobe of the right lung. There was harsh bronchial breathing, with crepitant and subcrepitant râles generally over the chest, but most marked over the upper lobes. The heart's action was weak and rapid; the temperature varied from 99° to 103.5° F. The respiration was rapid, labored, and shallow. The urine was examined, but with a negative result. Five days after admission the patient became delirious, and shortly died. Miliary tubercles were found in both lungs at the autopsy, but at no place had cavities formed. The kidneys were the seat of tubercular deposits, and also in places of fatty degeneration; the tubercle bacilli were found in large numbers. The liver contained much fat, and also numerous young miliary tubercles. The case was interesting as showing the accuracy of diagnosis, confirmed by a post-mortem examination, and from the facts that both lungs were the seat of general tuberculosis without any cavities, and that the kidneys and the liver presented an excellent opportunity for the study of miliary tubercle at an early date.

TUBERCULOSIS OF LUNGS AND KIDNEYS WITH OBSCURE SYMPTOMS.—Dr. H. N. HEINEMAN presented the lungs and kidneys removed from the body of a German, twenty-nine years of age, who entered the hospital on the 23d of December, 1883. The family history was negative; he denied venereal disease; had never drunk to excess. Four years ago he began to have pain over the region of the bladder, occasional vesical tenesmus, and frequent micturition, the urine being cloudy but never bloody, and sometimes there was incontinence, while at other times the

catheter was required; there was more or less backache. Nine months before admission he had irregular chilly sensations. Four years previous to his marriage, which took place two years ago, he had been in the habit of masturbating, and since his marriage had had occasional involuntary emissions without erection. On admission there was no cough, nor any temperature elevation. He complained only of the genito-urinary symptoms. He was much emaciated and pale, the breath had a bad odor, some râles were heard generally over the chest, and there were a few areas of slight dullness, but no signs pointing to other than simple bronchitis; he died six days after admission. At first he passed from seventeen to twenty-seven ounces of urine during the twenty-four hours, but the quantity diminished to six ounces on the day of death. The specific gravity varied from 1.015 to 1.024, and the urine contained pus. At the autopsy adhesions were found over both lungs, which were studded with small, recent cheesy tubercles. There was bronchitis. The liver was cirrhotic. The spleen was increased in size and waxy. One kidney was over eight inches long and four inches and a quarter wide, and weighed two pounds, it contained cavities filled with cheesy and purulent material. The ureter was enormously dilated and thickened. The pelvis was not, as was usual in such cases, coated with a pyogenic membrane. The other kidney was the seat of hydronephrosis, the kidney tissue proper having almost entirely disappeared. The walls of the bladder were thickened, and coated with a thick layer of pus and cheesy material. The prostate was almost completely broken down. There was no urethral stricture. The point of interest in the case was the absence of a rise of temperature at any time during the course of an acute tuberculosis, although this was not of very infrequent occurrence. Again, the lung trouble seemed to be of recent date, while the genito-urinary symptoms were of long standing. Dr. Heineman was of the opinion that the hydronephrosis developed in the one kidney previous to and independent of the tuberculosis, and that probably the other kidney became hypertrophied during this time while having to do the work of both organs, and afterward tuberculosis developed.

ENLARGEMENT OF THE HEART.—Dr. HEINEMAN also presented a heart, which weighed thirty-seven ounces, from a man who gave a remarkably negative history. There were hypertrophy and dilatation, with acute ulcerative endocarditis. There had been no chill or febrile movement, but there had been dyspnoea. A systolic and a regurgitant murmur had been recognized at the base, and a presystolic and a regurgitant murmur at the apex.

PERNICIOUS MALARIAL FEVER.—Dr. G. L. PEARODY presented the spleen, liver, and brain of a man who had died of this disease. The liver and the spleen showed blood pigment in large amount to the naked eye; the brain-tissue in less degree. The pigment was entirely confined within the lumen of the blood-vessels within the brain, and probably also in the other organs, although their structure admitted less clearly of its demonstration. The man was thirty-one years of age, had been to Jamaica, from whence he arrived in New York on the first of January. He entered the hospital on the seventh, complaining of severe headache, and speedily relapsed into a condition of apathy, twenty-four hours later becoming comatose. Quinine was administered both by the mouth and subcutaneously. He died comatose. Shortly before death the temperature, which had previously been about normal, rose to 108° F.

Meeting of January 23, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

NEURO-FIBROMA COMPLICATING SPINA BIFIDA.—After several specimens had been presented for candidates for member-

ship, Dr. ELLIOT presented a specimen illustrating spina bifida complicated by a neuro-fibroma in which the fibrous element predominated. The case occurred in the practice of Dr. M. J. Roberts. [Dr. Roberts's account of the case was published in the journal for January 26th, p. 89.]

OVARIAN CYST AND HYDROSALPINX.—Dr. BROWN presented specimens illustrating these affections removed from two different patients. In the first case the patient, six weeks after the birth of her child, became retiring, and soon distinct symptoms of melancholia were manifest. She suffered a great deal of pain in the pelvic region, and had periodic hæmorrhages. At the last confinement there was considerable post-partum hæmorrhage, and she was some time in recovering. Pressure upon what was presumed to be a displaced ovary in Douglas's *cul-de-sac* caused her to shriek with pain. Dr. Dawson performed laparotomy, found the left ovary adherent and cystic, both Fallopian tubes dropsical, but the right ovary not displaced, as had been presumed. The diseased organs were removed, and the patient was greatly relieved. The other case was that of a woman who had suffered constant pain, referred to the pelvic region, for many years. Finally laparotomy was performed, and double hydrosalpinx was found. The patient had done well since the operation, and doubtless would ultimately entirely recover.

EPILEPSY (?) WITH VISCERAL LESIONS.—Dr. R. W. AMIDON presented a dilated stomach, an enlarged and congested spleen, congested kidneys with atrophied cortices, and a heart with the right ventricle dilated, with fatty substitution in its walls, the left ventricle being concentrically hypertrophied, with dilatation and thinning of the right auricle—all from a boy seven years of age, in whom the immediate cause of death was œdema of the lungs with heart failure. The child came of a neurotic family. He had measles at the age of three years, followed by general œdema. At the same time he began to have "spells," sensory in nature, which were supposed to be epileptic, and were treated by the physician in attendance with bromide of potassium, ten grains three times a day. Dr. Amidon saw the patient afterward, and remarked, concerning the apparent epileptic seizures, that the following facts were opposed to that view of their nature: First, the child sometimes had as many as seventy-two attacks in seventy-two hours. He did not believe that a patient could have so many true epileptic convulsions and yet maintain general health and a perfectly sound mind. Again, the child could remember better than the nurse the number of attacks which occurred during the day, and could always foretell them. Very few, if any, were preceded by a cry; the patient did not bite the tongue, nor did he froth at the mouth. There was preservation of sensibility during the attack, and there was resistance to opening of the eyelids—conditions which had led to the diagnosis of hystero-epilepsy, and to a favorable prognosis. When Dr. Amidon was called to see the patient, a bromide eruption had appeared on the legs, face, and forehead, but it rapidly disappeared on stopping the medicine. The remedies which he tried were the aqueous extract of opium, cannabis indica, quinine, iron, tonics, and regulation of the diet. At times improvement took place, but the appetite was ravenous, and doubtless led to indiscretions which rendered treatment ineffectual. Had dilatation of the stomach been known to exist in so great a degree he would have resorted immediately to hypodermic medication. It was probable that drugs administered by the mouth had remained in the stomach many hours without becoming absorbed. No lesion of the brain, which was finally developed, was apparent at the autopsy.

PLEURISY AND PERICARDITIS.—Dr. FERGUSON presented specimens illustrative of these affections, which presented their regular signs, in a man who died in the hospital.

"SURGICAL KIDNEY."—Dr. FERGUSON also presented specimens illustrating the affection known by this name. An interesting fact in the case was the condition of the leg, which had sustained an injury twenty years before, the exact nature of which the patient did not remember. At the autopsy the lower end of the femur was found largely expanded, the knee and the ankle joints were ankylosed, the arteries were atheromatous, and the muscles had undergone fatty degeneration.

DILATATION OF THE STOMACH.—Dr. J. C. PETERS was now able to present the stomach of a patient who had died since the narration of the case at a recent meeting of the society. The stomach was four to six times as large as normal, due to constriction of the pylorus. No tumor was present, and there was no sign of malignant disease.

CARCINOMA OF THE CRANIUM.—Dr. HEINEMAN presented specimens from a woman who had died in the Mt. Sinai Hospital at the age of about twenty-six years. In 1881 Dr. Mason extirpated a carcinomatous tumor of the right breast. On her admission recently to Mt. Sinai Hospital the diagnosis was made of carcinoma involving some one of the viscera. At the autopsy, however, the viscera were found normal. There were some infiltrated glands in the axillary and cervical regions. There were several tumors of the calvaria, one on the petrous portion of the temporal, causing considerable pressure upon the medulla, and one on the sphenoid, producing exophthalmus on the right side. The diploë was infiltrated, but the dura was not affected.

CARCINOMA OF THE STOMACH.—Dr. B. ROBINSON presented a specimen of carcinomatous tumor of the pyloric orifice of the stomach, the interest of the case consisting in the fact that at certain times the tumor lay behind the liver in such a way that it could not be discovered by palpation, while at other times it assumed a position in which it could easily be detected through the abdominal walls.

COMBINATION OF LIPOMA AND EXOSTOSIS.—Dr. J. A. WYETH presented a specimen consisting in part of bone and in part of fatty structure, possibly constituting the rare condition of osteo-lipoma, but few cases of which had been placed upon record. The tumor was removed from a woman fifty years of age, and was situated upon the radius about one inch from the carpal articulation. The fatty tumor, consisting of two lobules of considerable size, was connected with the small bony exostosis by means of a pedicle. He was inclined to accept the view suggested by the president, that the lipoma developed independently of the bony tumor, and that their connection was accidental.

NEW YORK SURGICAL SOCIETY.

Meeting of January 22, 1884.

ROBERT F. WEIR, M. D., President, in the chair.

HABITUAL DISLOCATION OF THE ULNAR NERVE; MYOSITIS.—Dr. F. LANGE presented a patient, a violinist, who, about a week before, immediately after more than his usual amount of labor, began to suffer from a severe pain in the muscles of the right forearm near the elbow joint, and especially very near the internal condyle. The severe pain lasted only a short time, but the pain did not cease entirely. It increased during the next two days, after repeated use of the arm, and on the third day was again so severe that every movement at the elbow joint was impossible, and the patient suffered intensely. He was under medical treatment for a number of days, and he called to see Dr. Lange the Saturday before the meeting, when it was noticed that there was some swelling corresponding to the muscles of the forearm which take their origin from the internal epicondyle, and there was a very tender spot at the end of the ridge through which the ulnar nerve passes. Closer examination de-

termined the existence of luxation of the ulnar nerve between the olecranon and the internal condyle at every attempt to flex the forearm. The nerve could be traced quite distinctly, and rolled freely under the thumb and finger, so that in the semiflexed position it would be dislocated around the protruding point of the epicondyle. The most painful point, however, was where the nerve enters the muscles. In the left arm also the ulnar nerve could be easily moved under the thumb and finger, and the question arose whether the difficulty in the right arm pertained primarily to the nerve or to the muscles. Dr. Lange thought, however, that the case was one of myositis involving the muscles which have their origin in the region of the internal condyle, and thought, perhaps, also the sheath of the nerve had become involved. There were no peripheral alterations pointing to a lesion of the nerve itself.

EXCISION OF THE ELBOW JOINT.—Dr. LANGE also presented a patient in whom he had excised the left elbow joint nine months before. She was presented for the purpose of exhibiting an apparatus, described some years ago, which he had used after this operation with considerable advantage, and which he regarded as useful, especially in those cases in which a great deal of bone had been removed and the new formation was comparatively small, and also where a great deal of abnormal mobility existed. The idea involved in the apparatus was that some slipping of the bones should be allowed, so that those of the forearm were somewhat forced backward, and an adjustment of them was effected which imitated their physiological apposition. At the same time the joint was kept in semiflexion by means of rubber strings. The exercises were done by trying to keep a weight grasped with the fingers and not to allow it to extend the forearm. In this way the point of support was transferred to the attachment of the rubber strings. A lever action took place by which the bones of the forearm were still more brought into coaptation. The weights must be chosen so that they were slightly too heavy, and slowly pulled the arm into the extended position. Active extension alone was practiced in applying artificial flexors. He thought that, after the apparatus had been worn for a year or more, functional ability of the forearm would be very much improved.

Dr. J. C. HURCONSON inquired whether the motions of the forearm without the apparatus had improved any.

Dr. LANGE said there had been improvement, but it was very slight, and the movements of the forearm were very uncertain without the apparatus, which had been worn for a short period of time only, the patient not having had any orthopædic treatment for a number of months.

Dr. J. L. LITTLE referred to a case in which he excised the elbow joint and the instrument-maker constructed a similar apparatus, which had enabled the patient to use her hand ever since she began to wear it. While wearing the apparatus she was able to accomplish considerable work, but, when it was removed, the arm was perfectly useless and hung by her side. The apparatus did not permit of the slipping of the bones like that exhibited by Dr. Lange.

REPEATED AMPUTATIONS OF THE LOWER LIMB.—Dr. A. G. GERSTER presented a man, forty-eight years of age, on whom three amputations had been performed. At the last one the patella, both condyles of the femur, together with a portion of the old cicatrix, which was attached firmly to the posterior surface of the condyles, were removed. About a year ago the man suffered from compound fracture of the ankle joint, which was not treated antiseptically. A phlegmon developed, and it became necessary to amputate the leg. Both of the flaps, however, sloughed, although the amputation was treated by the open method. Dr. Gerster attributed the sloughing to the bad condition of the patient's circulation, due to habitual alcoholism.

As there was no covering for the protruding extremities of the bones, and it was expected that the cicatrix would become ulcerated, amputation was performed a second time at the knee joint by another surgeon. Most of the long anterior flap after this operation also sloughed, and the result was a large cicatrix upon the posterior aspect of the limb, closely adherent to the bone, and the final amputation already mentioned was performed. Dr. Gerster presented the patient especially on account of one pathological observation. When he had laid bare the condyles by the circular incision he found that, instead of close union of the integument having taken place with the articular surface, a bursa mucosa existed between it and the cartilage. The amputation having been accomplished, Neuber's deep sutures were employed, one drainage-tube was placed in the cavity from which the patella had been removed, and only one sublimat-sawdust dressing was necessary. Four weeks after the amputation the man was able to walk on the stump, and was discharged from the hospital. The wound at the amputation was quite extensive and irregular, and about eleven sutures were introduced to bring about contact of the walls of the cavity. With the patella the lining of the bursa quadricipitis was also removed.

DOUBLE BOW-LEGS; MACEWEN'S OSTEOTOMY.—Dr. GERSTER also presented a boy, sixteen years of age, showing the result of double osteotomy, according to Macewen's method, for bow-legs. Nine weeks had elapsed since the operation, and the case had progressed without any complications. The operative wounds were treated with a small pad of iodoform gauze. The distance between the internal condyles was three inches and a half before the operation, and now they touched each other. There was considerable arterial hemorrhage on one side, and he was obliged to ligate the bleeding vessel *in situ*. The limbs were placed upon simple straight splints and allowed to remain four weeks, when the splints were removed, a silicate of sodium dressing was applied, and the patient was allowed to walk about on crutches.

Dr. LANGE said he saw the last patient before his admission to the hospital, and so far as he remembered, it was a case of genu varum, the principal deflection being, as it was now, in the course of the tibia. He thought it would have been better if an osteotomy had been done below the tuberosity of the tibia.

Dr. GERSTER said that some of the deformity was due to curvature of the thighs, and his purpose was to determine whether or not it was necessary to osteotomize both femur and tibia, but, finding that the osteotomy of the femur corrected the deformity, he proceeded no further. Doubtless there was a marked curvature of the tibia also, but he considered the result as a very fair one.

Dr. C. T. POORE asked if the femoral curve was the more marked of the two.

Dr. GERSTER replied that the tibial curve was the more marked.

Dr. POORE remarked that in genu varum the deformity was due chiefly to the tibial curve, and he supposed quite probably one difficulty in correcting it in this case was the loose condition of the ligaments; on this account it was very difficult to correct the curvature.

Dr. GERSTER said that he had no difficulty in correcting the deformity after the bones were snapped.

Dr. LANGE remarked that there now existed a slight degree of knock-knee, and the curvature of the tibia remained.

ON THE VALUE OF INTERNAL ŒSOPHAGOTOMY IN THE TREATMENT OF CICATRICAL STRICTURE.—Dr. HENRY B. SANDS read a paper with this title, the concluding portion of which is given in this number of the journal. [See p. 209.]

Dr. POST remarked that Dr. Sands had suggested, as prophylactic

treatment, that dilatation should be commenced a week after the injury. He would suggest that a week would be rather early, and that two or three weeks would be better, as it was only after the separation of the sloughs, and when the reparative process had become well established, that the contraction began to take place.

Dr. SANDS remarked that his patient was about the house and apparently in pretty good health four days after the injury, and he would prefer to give, as a rule, too early rather than too late a period.

The PRESIDENT remarked that it had been his good fortune to witness the operation of Bergman, described in the paper, where the gastric fistula made for the relief of a strictured œsophagus was closed after the stricture had been dilated. It certainly was a unique and remarkable case. One point in connection with the paper he thought worthy of remark was the omission of continuous dilatation. He had not had any personal experience with cicatrival strictures as tight as Dr. Sands had cited, but he had had some experience in the treatment of quite narrow malignant strictures. Recently, in one instance, a No. 18 soft catheter was kept in position three weeks prior to the death of the patient, and with great comfort and improvement in the size of the strictured portion, though nourishing the patient was the only point aimed at in the case. He was led to adopt this method of treatment by reading an article by Krishofer, who had employed continuous indwelling of the catheter for great lengths of time, in one instance the instrument remaining in position for one year without any detrimental result. The comparison with reference to dilatation was often made between the urethra and the œsophagus, but erroneously, for in the former there was present an irritating or septic urine. Dr. Weir thought it had been shown by Krishofer's case that the œsophagus bore continuous dilatation better than the urethra, and the food, being carried inside of the tube, could not produce irritation. He would therefore, in cases of cicatrival contraction, first try this method of dilatation before resorting to operative procedures.

REMOVAL OF FOREIGN BODIES.—Dr. W. S. HALSTED presented several foreign bodies, with brief histories of the cases in which they were removed.

CASE I.—*A Piece of Fibro-Cartilag removed from the Œsophagus by External Œsophagotomy.*—At Ward's Island, July 23, 1882, a Hungarian, aged thirty-three, swallowed at dinner a piece of food which became arrested in his œsophagus a little below the cricoid cartilage. The resident physicians were unsuccessful in their attempts to dislodge it. They obtained, however, a fragment which, submitted to microscopical examination, proved to be fibro-cartilage. The patient was said to have experienced great difficulty in breathing for several hours, and then to have become quite tolerant of the foreign body, but to have been unable to swallow even liquids.

July 25th.—The foreign body, indistinctly definable by palpation of the neck, was believed to be lodged in the œsophagus, just above the sternum, projecting more to the right side than to the left. An incision, extending from the middle of the thyroid cartilage to the interclavicular notch of the sternum, was made parallel with the anterior border of the sterno-cleido-mastoid muscle. The oblique jugular vein was drawn toward the median line. The middle thyroid vein in the upper angle of the wound was doubly ligated and divided. The common carotid artery, crossed by the omo-hyoid muscle, rolled up into view. The foreign body was readily mapped out through the œsophageal walls, and over it was stretched the recurrent laryngeal nerve. An incision an inch and a quarter long was made into the œsophagus, parallel with and posterior to the nerve, and the foreign body, measuring $1\frac{1}{2} \times 1 \times 1$ inch, was removed with a vulsella.

The wound in the œsophagus was united by sulphurous-acid catgut, and the integument by silk sutures. An iodoformized peat dressing was applied. A few days later the patient was clandestinely served with blackberries by missionaries to the island, which interfered with union by first intention, but otherwise did not hinder his prompt recovery.

CASE II.—*Three Calculi, each with a Portion of a Soft Catheter as a Nucleus, removed from the Bladder by Lateral Lithotomy at One Operation.*—The patient, a Finn, about thirty-five years old, had been in the habit of evacuating his paralyzed bladder with a soft catheter. One day the catheter broke off in his bladder, and a piece, believed to be two or three inches long, was left behind.

He subsequently regained the power of his bladder, and applied, six or eight months after the mishap, at Ward's Island, for relief of frequent and painful micturition. A stone was detected by Thompson's searcher. In consideration of the history, it was believed to be advisable to practice the cutting operation. The patient had such a short perineum that the finger, introduced into the bladder, could ascertain the number and shape of the stones. These were carefully so seized with the forceps as not to be crushed, and removed.

The patient's convalescence was somewhat protracted because of a cystitis perpetuated by a few fragments, which he eventually passed *per urethram*.

Each calculus contained a piece of the catheter, its point being distinctly visible in one of them.

CASE III.—*A Portion of a Bullet removed from the Diploë and Cranial Cavity.*—Mr. H. U. G., aged fifty-two, was admitted to the Chambers Street Hospital, May 9, 1883, for a self-inflicted pistol-shot wound of the head.

A small circular scalp-wound was found on the right side, two inches and a half below the sagittal suture and one inch in front of the external auditory meatus. The reflexes were normal, and there was no paralysis; the intellect was perfectly clear.

A crucial incision was made through the scalp. The external table was found depressed, and at the bottom of the depression there was a hole one quarter of an inch in diameter and about one inch behind the bullet wound in the soft parts. A probe, passed obliquely backward through the hole, detected the foreign body, which was not visible.

Thereupon certain fragments of the external table were removed, and the bullet was revealed, lying between the two tables, and projecting somewhat into the cranial cavity. Upon its extraction, a slightly depressed fragment of the inner table was withdrawn.

The wound was dressed antiseptically, and closed with a continuous catgut suture. Union took place by first intention throughout, except where the incisions crossed one another—viz., at the point of entrance of the bullet—and here there was a very slight necrosis of the approximated corners of the flaps.

The bullet had split upon the outer table of the parietal bone; one fragment entered the diploë and cranial cavity, as described, and the other passed through a mirror and was found behind the bureau.

Dr. HUTCHINSON said that some time ago he presented a urinary calculus to the society which had for its nucleus a loop of silver wire. The patient had a urethro-vesical fistula, which had been closed with silver-wire sutures, and he (Dr. Hutchinson) was reported to have stated that a house surgeon who had been directed to remove the sutures overlooked one, which fell into the bladder and formed the nucleus of the stone. This was an error. He had said that he had himself removed the sutures, and was responsible for having failed to remove the one which entered the bladder.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M.D.,

LECTURER ON OPHTHALMOLOGY AND OTOTOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY; OPHTHALMIC SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN AND TO THE NURSERY AND CHILD'S HOSPITAL.

(Continued from page 159.)

OCULAR TROUBLES DURING PREGNANCY AND CONFINEMENT.—Métaxas ("Recueil d'ophtalmologie," Oct., 1883) divides his subject, as Power did, into four classes, viz.: 1. Affections of the eye due to anæmia and general weakness, such as corneal ulcers, accommodative asthenopia, and cataract. 2. Affections of the eye caused by a special lesion of the nervous system, such as diseases of the retina and optic disc, optic nerve, chiasm, and central ganglia. 3. Retinitis albuminurica, hæmorrhages, and exudation into the retina. 4. Ocular diseases from causes still unknown. Ulcers of the cornea are very apt to occur during lactation. Iritis has frequently been met with during pregnancy and after confinement, and so have accommodative asthenopia and cataract. Métaxas adopts Pasteur's theory that puerperal fever is due to the presence of minute organisms or microbes, the germs of which, floating in the air and cultivated in the fluids which bathe the genital organs of the parturient woman, are introduced into the circulation and give rise to septic troubles, and among them to panophthalmitis and iridochoroiditis. These organisms do not develop so long as the blood is in motion, but only when the micrococci meet with an obstructed vessel in their course.

THE TREATMENT OF SUPPURATION AFTER EXTRACTION OF CATARACT.—Abadie ("Annales d'oculistique," Sept.-Oct., 1883) here reiterates his belief in the value of galvanic cauterization of the lips of the corneal wound as soon as any signs of suppuration appear. He touches with the point of the galvano-cautery the center of the corneal wound, and also the two extremities. He then opens the anterior chamber with the point of a Weber's knife, and evacuates the aqueous humor. Every three or four hours the eye is to be washed with a saturated solution of boric acid. The cauterization provokes but slight reaction; it is not very painful, and at the end of an hour or two the pain subsides. In twelve or fifteen hours an evident amelioration appears. The chemosis and swelling of the lids diminish, and the cornea becomes more translucent. At the end of twenty-four hours, however, the cauterization must be repeated. Twelve hours later there is another return of the inflammatory process, which demands another cauterization, and this must be repeated for five or six days, at the end of which time all danger is past.

TREATMENT OF GLAUCOMA BY LACERATION OF THE EXTERNAL NASAL NERVE.—Badal ("Annales d'oculistique," Sept.-Oct., 1883) describes the method of operating, and compares the results of this method with those obtained by iridectomy and sclerotomy. He bases his conclusions upon twenty eyes thus operated upon. An analysis of these cases and of five cases of Abadie's shows that laceration of the external nasal nerve lowered the tension in nineteen. In twenty cases in which the glaucoma was acute or subacute the operation put a stop to the pain, sometimes instantaneously. In four of these cases an iridectomy had aggravated the condition of the patient, while in two cases a sclerotomy had changed a chronic glaucoma into an acute attack. In six other cases sclerotomy had failed, and iridectomy in four. In two cases of acute glaucoma, the cure was rapid and complete in one, while in the other there

was no improvement of the vision. In six other cases in which the vision had been lost, or nearly so, for a long time, the visual acuity was so far improved in three cases as to permit of the patients' going about alone. In the cases in which the laceration of the nerve had failed, both sclerotomy and iridectomy also proved futile. In no case did the laceration of the nerve aggravate the condition of the patients.

ANTISEPTIC OCCLUSIVE DRESSINGS IN OPHTHALMIC SURGERY.—Gillet de Grandmont ("Annales d'oculistique," Sept., Oct., 1883) recommends the following dressings as antiseptic: First, a piece of cotton wadding and hygroscopic gauze, large enough to cover the eyelids, about five centimetres long and three wide. This is laid over the closed lids and covered by another piece of double thickness. Over this is laid a layer of carbolized gauze eight centimetres long by six broad. Between the hygroscopic gauze and the lids he places a few boric-acid crystals. When the carbolized gauze is in place, a brush dipped in elastic collodion is immediately passed all round its edge, and the agglutination to the skin of the forehead, temple, and cheek is immediate, and thus the eye is hermetically sealed. No bandage is required, and the dressing may be left undisturbed for three or four days.

THE HYGIENE OF VISION AND THE INCANDESCENT ELECTRIC LAMP.—Meunier ("Recueil d'ophtalmologie," Sept., 1883) has been experimenting with the illuminating power of incandescent electric lamps, and formulates his conclusions as to its effects upon the hygiene of vision as follows: 1. The retina is as sensitive to the ultra-violet rays as to the visual rays. 2. It is impossible to pronounce upon the question whether the retina is sensitive to the ultra-solar rays, arrested always by the cornea and vitreous humor. 3. It is the lens alone which limits the visual spectrum. 4. The ultra-violet rays being absorbed by the media of the eye, this absorption probably fatigues the organ, especially when it is a question of the long and brilliant ultra-solar spectrum of the electric arc. 5. Photographs of the spectrum of incandescent electric lamps have shown that this spectrum scarcely exceeds the visible spectrum. Hence this light spares the media in front of the retina all the work of absorption and dispersion of the ultra-violet rays. 6. This species of light being fixed and giving out but little heat, it should be employed in schools, offices, work-shops, and in all places where work is carried on for long hours by artificial light.

CONJUNCTIVAL GRAFTING.—Cuignet ("Recueil d'ophtalmologie," Sept., 1883) reports an instance of conjunctival grafting in a case of burn of the conjunctiva with extensive symblepharon in a boy aged thirteen. About three years before the patient received a burn from quicklime in the left eye. The lower lid was adherent to the eyeball from the bottom of the cul-de-sac to its ciliary margin, throughout the middle three fifths of its length, thus involving both sclera and cornea. Cicatricial contraction had brought the edge of the lid three millimetres above the lower margin of the cornea, and the band of symblepharon was thick, short, and resisting. The lid was separated from its bulbar attachments by scissors without disturbing the insertion of the inferior rectus muscle. The dissection was carried carefully to the bottom of the cul-de-sac. A piece of mucous membrane was then carefully removed from the buccal cavity of a rabbit, large enough to cover the raw surface on the lid and on the eyeball, dipping down to the bottom of the cul-de-sac and maintained in position by sutures along the margins, and the cul-de-sac was made by passing sutures deep down at the bottom of the groove and bringing them out through the skin at the inferior orbital margin. A slight compress was then applied externally and covered by a simple bandage. On the fifteenth day an examination showed that there were no adhe-

sions between the lid and the eyeball; the eyeball was freely movable, and the cul-de-sac had retained about one half of its normal depth. The thick cicatricial pterygium had disappeared, and the opacity of the cornea only covered the lower portion of the papillary field. One year later the patient was seen, and the result had remained unchanged.

DIABETIC PARALYSIS OF THE ABDUCCENS.—Guttmann ("Centralblatt für prakt. Augenheilkunde," Oct., 1883) reports a case occurring in the person of a physician, aged fifty-three, who was suffering from general muscular weakness, and who thought he had tabs. He began to see double in May, 1883, while playing a game of chess. Hirschberg found paralysis of the right abduccens, normal vision and accommodation, and normal pupillary reaction. There was a large amount of sugar in the urine. On May 16th the abduccens paralysis was complete, and secondary convergence had appeared. After a sojourn of two months in Carlsbad, the diplopia had almost entirely disappeared, there was no convergence, and the sugar had entirely disappeared from the urine.

CONGENITAL LIPOMATOUS DERMOID TUMOR OF THE EYEBALL.—Hirschberg and Birnbacher ("Centralblatt für prakt. Augenheilkunde," Oct., 1883) report a case of this nature in a young woman aged eighteen. There was a bright yellow, smooth projection which covered the greater portion of the external half of the sclera of the left eye. It was separated from the healthy conjunctiva near the corneal margin by a tolerably deep groove, but downward and outward it merged gradually into the normal curvature of the eyeball, and was distinctly separated from the lachrymal gland. It was carefully dissected out from the sclera and conjunctiva. The vertical elliptical defect, left after its removal, was closed by three sutures. The external rectus muscle was not injured. The tumor was eighteen millimetres long, ten wide, and seven thick. It was covered by several layers of epithelium. There were several slightly pigmented small hairs on its surface, and the hair follicle and sebaceous glands were perfectly formed. A careful microscopical examination proved the tumor to be dermoid in character and to belong to the group of teratomata.

SPONTANEOUS GANGRENE OF THE SKIN OF THE EYELID.—Hilbert ("Centralblatt für prakt. Augenheilkunde," Oct., 1883) reports a case of this rare disease in a female child, four months old, in apparently perfect health, and with healthy parents. In the center of the right upper lid there was a yellowish scab of circular form and about five millimetres in diameter. The skin immediately surrounding the scab was slightly reddened. After the removal of the scab the skin was found deprived of its epidermis and slightly moist, resembling an eczema impetiginosum. Two days later the entire upper lid was very much injected and cedematous; the slough had doubled in size, and there was some fever. There was a swollen lymphatic gland at the angle of the jaw on the right side. The urine contained neither sugar nor albumin. During the next four days the disease advanced still farther, the original site of the scab became dry and black, and a line of demarcation formed round the entire periphery of the focus of disease. The necrotic portion of skin was also circular, became black and dry, and had a diameter of nineteen millimetres. Two days later this was removed with the forceps, and the fever had disappeared. Granulations soon appeared, and, under powdered iodoform, the raw surface had entirely healed in a week.

XEROSIS OF THE CONJUNCTIVA, INFANTILE CORNEAL DEGENERATION, AND THE ORIGIN OF XEROPHTHALMUS.—Lohr's article ("Arch. f. Ophthalmologie," xxix, 3) is long and interesting, but difficult of clear abstraction. He first considers infantile xerosis with ulceration of the cornea, which he illustrates by one case. In this case the ocular conjunctiva and the mucous mem-

brane of the pelvis of the kidneys were the seat of a hypertrophic, desquamative epithelial affection, and of an enormous development of a peculiar schizomyces or fissured fungus. There was also present a purulent destruction of the cornea with subsequent panophthalmitis, which was the means of introduction of this fungus into the corneal tissue and interior of the eyeball. The epithelial change was of a hyperplastic character, with repeated stratification of numerous thin epithelial scales, which repeatedly scaled off and were followed by new epithelial formation; the cells were themselves hypertrophied and their hooked processes larger. There was also present a kind of fatty degeneration, most marked in the more superficial cells and immediately around the nuclei. Leber then discusses the xerosis which occurs with hemeralopia, which he finds appears under the same conditions and with the same complications as the infantile form. During its entire course there may be no disturbance of the general health; but, if there is any disturbance of nutrition present, the lesion in the eyes is so much the more destructive. Leber then describes a more or less pronounced, general partial xerosis which is a purely local, secondary lesion, occurring in eyes which have been the seat of chronic conjunctivitis or keratitis, but without much shrinking of the conjunctiva. In this form of xerosis Leber found not only an hypertrophied condition of the epithelium, but also fatty degeneration and the peculiar fungous growth heretofore mentioned. The article concludes with some interesting remarks upon the origin of xerophthalmus.

UNILATERAL TEMPORAL HEMIANOPIA AFTER TREPHINING.—Nieden's case of temporal hemianopsia, following an operation of trephining for pus ("Arch. f. Ophthalmologie," xxix, 3), is very interesting. The opening made by the trephine was close to the base of the left occipital groove and very near the bony ridge running upward from the internal protuberance. Just at this point rests the posterior end of the left occipital lobe, and, as the dura mater was injured at this point by the trephine, it is probable that the portion of cerebral cortex lying just beneath was lacerated, and, in the course of the next few weeks, prolapsed into the wound, was destroyed, and sloughed off. The defect of vision of the right eye, first noticed on the regaining of consciousness after the operation, was no doubt due to the injury of the left occipital lobe. As the chief symptom was the loss of the greater part of the visual field of the right eye—that is, its entire temporal half—this region of the left occipital lobe must constitute the visual center for the greater part of the retina of the right eye.

THE DECROSSING OF THE OPTIC-NERVE FIBERS IN THE CHIASM AND OPTIC TRACTS.—Burdach ("Arch. f. Ophthalmologie," xxix, 3) gives the results of an examination of the optic nerves and tracts in a case in which one eye had been enucleated some years before. The atrophy of the nerve fibers could be traced from the eyeball backward to the tracts. The uncrossed bundles appeared as narrow, non-medullary zones on the upper and outer sides of the supero-external and on the outer side of the inferior quadrant. The crossed bundles appeared as narrow atrophic streaks or lines along the lower margin, with a wedge-shaped expansion in the infero-nasal quadrant. The case corresponded in the microscopical appearances with the other cases hitherto published.

A PECULIAR CORNEAL CHANGE DEPENDENT UPON THE INFILTRATION OF A FUNGOID DEPOSIT IN THE CORNEA.—Baumgarten ("Arch. f. Ophthalmologie," xxix, 3) describes a peculiar pathological appearance in the cornea of an eye removed for beginning sympathetic inflammation in the other eye. Nearly the entire cornea was of a grayish-green color, the opacity depending upon an infiltration of what looked like masses of fungus. These bodies were brilliant, with sharp borders, colorless, close-

ly pressed together, and were either elongated like rods or a long oval in shape. The largest number of these bodies were in the center of the cornea. The strongest argument against the mycotic character of this corneal disease was the total absence of all signs of inflammation and degeneration of the corneal tissue.

GLAUCOMA.—Jacobson's article ("Arch. f. Ophthalmologie," xxix, 3) is one of considerable interest. He goes back to the consideration of Mackenzie's theory of six periods in the course of glaucoma, with special reference to the first two, viz.: 1. A green reflex behind the pupil with movable iris and good vision; and, 2. A dirty gray lens, sluggish iris, diminution of vision, and a somewhat hard eyeball. In both these periods the glaucoma is a disease of the lens, if amaurosis has not previously appeared; but in all the other periods all the tissues of the eyeball are involved. He therefore regards Mackenzie as the author of the hypothesis of increased tension. He then considers this hypothesis and that of an existing choroiditis. From his own observations and those of other authors, he thinks that there is an essential difference between the process of progressive nerve atrophy in the trunk of the optic nerve and the changes in the axis-cylinders dependent upon compression of the papilla. The course of the functional disturbance is now explained by assuming that, in opposition to genuine and to extra-ocular pressure atrophy, there are not in the beginning a very large number of the optic-nerve fibers which are in a high degree incapable of conducting power; but that certain laterally deviating or especially protected fibers of the papilla suffer but little from the gradually increasing, periodically variable intra-ocular tension. These fibers, however, lose their conducting power very rapidly when the tension becomes too great, or when the conditions are very unfavorable to a lateral deviation or yielding. Jacobson then considers briefly the influence of psychic disturbances and irritation of the trigemini in developing increased tension, and illustrates the effects of such causes by cases. He next takes up the subject of prodromal and chronic glaucoma from the clinical standpoint. In regard to the latter, he calls attention to the fact that the marginal excavation is not an early but a late symptom of glaucoma, which is always preceded by a stage of displacement of the vessels backward upon the surface of the papilla and toward the marginal excavation. He also calls attention to the fact that experience teaches that with frequently recurring attacks, despite their transient character, loss of function occurs without the outbreak of an actual acute glaucoma; and hence our attention should be especially directed toward the prodromal symptoms. Chronic glaucoma may be far advanced before any displacement of the vessels at the margin of the disc occurs. The marginal excavation always precedes the deep, central excavation demonstrable with the ophthalmoscope. Jacobson thinks that a permanent, excessive spasm or tension of the muscle of accommodation may become a cause of prodromal and chronic glaucoma.

A PECULIAR APPEARANCE OF THE INHERENT LIGHT OF THE RETINA.—Mayerhausen ("Archiv für Augenheilkunde," xiii, 1) gives an account of a peculiar phenomenon which he observed under certain conditions in his own eyes. The phenomenon consisted in general in the appearance of groups of absolutely parallel bright lines, with regular dark intervening spaces, which were visible upon a dark wall at a distance of five metres. The width of these lines was from two to four mm., and their distance from each other from one to one and a half cm. Between these bright lines were an indefinite number of less bright, much finer lines. The direction of these lines was very different in different portions of the field of vision. These lines were absolutely immovable, but remained at the same spot as long as they were visible. Occasionally they could be seen extending

all over the visual field. A very dark background was by no means necessary for their perception, for he was finally able to see them in broad daylight. These lines Mayerhansen regarded as a perception or observation of the proper or inherent light of the retina, appearing in a very definitely regular form, harmonizing with an actual anatomical substratum.

OPERATIONS FOR ENTROPION.—Holtz ("Archiv für Augenheilkunde," xiii, 1) claims for his operation the following advantages: 1. It effects its object without the slightest shortening of the skin of the lid. 2. It is therefore applicable in cases in which, on account of previous shortening of the skin, other methods can not be employed. 3. It does not change the shape of the lid, nor does it obstruct in any way the opening and closing of the lids. 4. In cases of relapse, it may be repeated without disturbing the external appearance of the lids in the slightest degree. 5. The tension of the skin, which restores the edge of the lid to its normal position, remains the same, whether the lid is lifted or lowered.

FENESTRATED EXCISION OF THE IRIS.—Nicati ("Archives d'ophtalmologie," Sept.-Oct., 1893) gives the following reasons for performing a fenestrated excision or a simple incision of the iris at the level of a peripheral section of the cornea: 1. It assures the flow of the aqueous humor from the posterior chamber by direct capillarity. 2. Consequently it maintains an equilibrium of tension of the two chambers. 3. It does away with the principal cause of the inclosure or adhesion of the iris in the wound. The advantages accruing from the integrity of the sphincter are: 1. The easier and more complete reduction of the iris. 2. The disengagement of the angle of the anterior chamber by the stretching of the iris—an essential point for the maintenance of the filtration of the ocular fluid. 3. The preservation of the æsthetic and functional advantages of a normal pupil.

DISTICHIASIS, TRICHIASIS, AND ENTROPION.—Nicati ("Archives d'ophtalmologie," Sept.-Oct., 1893) concludes, from his observations upon a large number of cases, that distichiasis, or a supernumerary row of eyelashes, is a congenital condition, and can only be cured by ablation. Trichiasis, or deviation of the eyelashes by destruction of the margin of the lid, demands a plastic operation upon the edge of the eyelid. Entropion, or deviation of the eyelashes by a rocking of the edge of the lid and destruction of the conjunctiva, demands an operation for un-warping or straightening; resection of the tarsus when the disease is stationary; advancement of the elevator when relapses or fresh onsets of inflammation are to be feared.

CONGENITAL LESION OF THE RETINA.—Gayet ("Archives d'ophtalmologie," Sept.-Oct., 1893) reports an interesting case of what was possibly congenital retinitis pigmentosa in a young man of sound health, who had had defective vision since early infancy. His parents were first cousins. He had two brothers and a sister with normal vision, and one younger sister with the same trouble as he had himself. The patient had never been able to find his way in the dark, or in places obscurely lighted. His senses of hearing, taste, and smell were perfect, yet he had never been able to sing or whistle any tune. He had a myopic astigmatism of two dioptics in the horizontal meridian. The visual field of the right eye was concentrically limited; that of the left eye was less limited and more irregular. Colors were only perceived by the patient in a very narrow field, and even here there was a certain amount of dyschromatopsia. The media were perfectly clear. The macula was much larger than ordinary. There were a large number of white spots all over the fundus, most of them circular and slightly elevated, and increasing in size from center toward the periphery. There was no displacement or accumulation of pigment at any of the spots, and the retinal vessels all passed in front of the spots. Gayet thought

them to be at the level of the limitans interna of the choroid and of the hexagonal pigment-cell layer. He thought that this mother-of-pearl appearance had actually taken the place of the pigment, and hence he regarded the lesion as one of transformation. The same condition existed in the eyes of the younger sister.

RHEUMATIC INFLAMMATION OF THE CAPSULE OF TENON.—Sédan ("Recueil d'ophtalmologie," September, 1893) reports a case of this nature and gives his method of treatment. The case occurred in a man, aged thirty-four, who had been subject to repeated attacks of acute articular rheumatism. In the present attack, the lids of both eyes were swollen, there was extensive chemosis, so that the movements of the eyes were interfered with, and the lids could with difficulty be closed. The cornea were slightly cloudy, and there was slight exophthalmus. He scarified the lids and conjunctiva freely and applied hot elder-water compresses. The next day the exophthalmus on both sides was very marked. He repeated the scarifications, and through one of them, near the external canthus, there issued a quantity of a light yellow, almost oily liquid. An incision in a corresponding spot on the other eye gave exit to a similar fluid. Through these two wounds a permanent filtration was established, which greatly reduced the swelling and the protrusion of the eyes. An ophthalmoscopic examination showed no change from the normal in the fundus. For five days these fistulous openings discharged freely; the eyes gradually receded into the orbits, and the ocular symptoms slowly subsided, to give place to the symptoms of an attack of acute articular rheumatism.

JEQUIRY AND ITS FAILURE IN THE TREATMENT OF CONJUNCTIVAL GRANULATIONS.—Parisotti and Galezowski ("Recueil d'ophtalmologie," August, 1893) have not succeeded as well with infusions of jequiriy in the treatment of granulations as Wecker and others have. They obtained their infusion of the beans from the same pharmacist who furnished Wecker with his infusions; and they employed it with rigid regard to the directions given by Wecker; but they produced only negative results. They noted the appearance of a completely smooth surface of the conjunctiva where the granulations had been, but at the end of two weeks the lids had almost regained their normal thickness, and the granulations had remained completely intact. If the conjunctival surface be examined before the swelling has entirely disappeared, there will be seen a united, almost glistening surface, resembling cicatricial tissue, but which is only caused by the swelling of the tissues. During this period the granulations remain concealed by the swelling of the mucous membrane; but, as soon as the inflammation has completely disappeared, the granulations will be found in their primitive state, without having undergone any modification. Moreover, they think that this method of treatment is not without danger to the cornea, which may be even entirely destroyed.

(To be concluded.)

Miscellany.

THERAPEUTICAL NOTES.—*The Action of Papayotin and Papain*.—According to Professor Rossbach ("Zeitschr. f. k. Med.," vi Bd., 6 Heft, 1893), the *Carica papaya*, or papaya tree, is a native of South America, but is cultivated also in other tropical countries, and can be raised elsewhere in hot-houses. Its wood, leaves, and berries contain a great abundance of milky juice, which flows freely from an incision in the trunk, and hardens on exposure to the air. From this juice is obtained, by precipi-

tation with alcohol, that peculiar digestive ferment which Würtz and Bouchut have denominated papain. It has been shown by these experimenters that a given quantity of papain is capable of dissolving one thousand times its own weight of moistened fibrin, almost the whole of which it transforms into a peptone, and that its digestive action is similar in all respects to that of natural pepsin. It is also proved that this liquefaction of fibrin is in no degree due to the bacteria which are propagated with great rapidity in the papain solution.

Professor Rossbach has found: 1. That hot concentrated solutions of papayotin exert their solvent powers no more speedily than cold ones. 2. That the flesh of newly killed rabbits, when placed in a five-per-cent. solution of papayotin, becomes soft and sometimes quite disintegrated, in half an hour, while pulmonary tissue, on the contrary, is scarcely acted upon, and living mucous membrane is not in the least affected. 3. That very weak preparations possess but little solvent power; hardly any perceptible effect is produced by a one-half-per-cent. solution. The digestive energy of papayotin is lessened by the addition of either hydrochloric acid or phenol, but is not entirely destroyed even when these agents are used in the proportion of four per cent.

No ill effects were produced on dogs, cats, or rabbits, whether healthy or diseased, by the ingestion of papayotin in large quantities. In some cases the appetite was greatly increased. In those animals which were killed after partaking of the drug, the mucous membrane of the stomach and oesophagus showed not the slightest alteration.

From these and other similar observations the following points have been established bearing upon the therapeutical applications of this remarkable substance: 1. Papayotin, when taken internally, is entirely harmless. 2. For subcutaneous injections only a sterilized solution should be employed, and this always in very small doses. 3. When thrown directly into the circulation, papayotin acts as a powerful poison by paralyzing the heart and nervous centers.

The following are the diseased conditions for which papayotin has so far been recommended: *a.* Various cutaneous eruptions, including lichen tropicus. In these affections its efficacy has not been tested by Rossbach. *b.* It has been employed to dissolve external carcinomatous tubercles. Bouchut injected it into swollen cervical glands, causing great pain and considerable fever. In three days the tumors softened, and turned into abscesses. In three cases of mammary carcinoma, and one case of scirrhus of the axillary glands, which were treated by Péan at the Hôpital St. Louis with injections of papain, the hard swellings were softened and digested. Rossbach thinks that in such complaints it is better to extirpate the morbid growths, or, if this procedure is contraindicated, he recommends injecting them several times a week with a little sterilized solution of papayotin. *c.* In diphtheria and for the resolution of croupous false membrane. Koths and Aschbach report favorable results from papayotin in fifty-three cases of diphtheria. In bad attacks of croup, Rossbach advises that a solution of papayotin, made as strong as possible, be kept in constant contact with the exudation by painting it over the latter, and also dropping it into the nose and mouth, every five minutes. *d.* Papayotin has been employed in France to assist the digestion of meat in cases of dyspepsia and other gastro-intestinal disorders. Dr. Albrecht has prescribed it successfully for various complaints of the stomach and bowels in children. Vomiting and indigestion are said to be very quickly relieved by small doses. Rossbach believes that papayotin, given by the mouth or in nutritive enemata, is especially serviceable when there is a deficiency of the normal gastric juices. *e.* Probably the solvent powers of this agent will yet be made available in many gastric carcinomata. *f.* Descourtils and Tussac report that the juice is an effectual vermicide.

SORE THROAT IN CHILDREN.—Dr. Henry Ashby has an instructive paper on this subject in the "Practitioner" for December, 1883. He begins by remarking that the importance of ascertaining the state of the fauces in a sick child can hardly be overestimated. It is not always an easy proceeding to make a thorough investigation of the throat in such cases, and, when we have succeeded in this, it must be admitted that our difficulties in diagnosis are by no means at an end. These difficulties arise in cases of febrile sore throat in their various forms, when it is not possible to decide on their simple nature or to throw them at once among the specific fevers. Is the trouble with the tonsils

an inflammatory affection merely, or is it linked with a scarlatina or a diphtheria? This is a question, unfortunately, that does not always admit of an answer, for the symptoms of scarlet fever shade away imperceptibly into a slight sore throat. It is a fact, often noted, how frequently the attendants on those sick with scarlet fever suffer from sore throat, and how often during the prevalence of an epidemic of typhoid many suffer from diarrhoea, who in no other way present symptoms of fever.

Putting aside some of the rarer forms of sore throat in children—namely, syphilitic or tuberculous ulceration, abscess, and also the congested throats seen at times in typhoid, measles, and rütheln—we may divide the more important forms into: 1. Catarrhal amygdalitis. 2. Scarlatinal amygdalitis. 3. Pseudo-diphtheritic amygdalitis. 4. Diphtheria.

1. *Simple Catarrhal Amygdalitis.*—A moderately acute attack generally begins with a feeling of chilliness or heat; there is rarely vomiting or retching; the temperature rises in the evening it may be to 103° F. The tonsils are swollen, often unequally, and congested, the mucous membrane of the soft palate is more or less injected, there is an excessive secretion of mucus, and in a few hours yellow spots make their appearance on the tonsils, the results of the secretion being retained in the crypts. The tongue becomes furred; the temperature may fall next morning to normal, to be intermittent for a few days until it finally remains normal. Such attacks are in all probability the result of several disorders and constitutional states, among which possibly cold, inhalation of sewer or foul gases, some specific poison, as that of scarlatina or diphtheria, may play a part. One thing is certain, that attacks of amygdalitis, while occurring sporadically, often occur in epidemics, sometimes one child in a school or hospital ward, at other times a number, being attacked. Simple catarrhal amygdalitis remains from first to last an affection of the mucous membrane covering the tonsils and soft palate, and does not involve the parenchyma of the tonsils, or exhibit any tendency to involve the nasal or laryngeal mucous membrane, or lead to purulent infiltration of the middle ear. There is no true ulceration of the tonsils or sloughing of the soft palate or cellulitis around the cervical glands, and in any case which has exhibited any such tendencies we may strongly suspect some specific fever. Unquestionably, such a simple attack may be the result of the poison of scarlet fever. Mild cases of the latter may occur with no rash, only a few degrees of fever, and a simple amygdalitis, and yet be followed by nephritis. Cases of undoubted scarlet fever may occur in a ward or household, to be followed by the occurrence of simple amygdalitis more or less widespread, and perfectly indistinguishable from ordinary catarrhal amygdalitis. Such epidemics of sore throat are far from uncommon; the patients should be carefully isolated, and the most rigid scrutiny employed to discover the nature of the cases, attention being especially directed to the questions of scarlatina and insanitary conditions.

2. *The Sore Throat of Scarlet Fever.*—In typical examples there is no disease so easy to diagnose as scarlet fever, but it must be said also that there is no disease that at times presents greater difficulties. The onset is sudden and abrupt, and is nearly always accompanied by vomiting, often by diarrhoea. The child appears perhaps well in the morning, goes to school, comes home feeling tired, takes its dinner, and then vomits several times; toward evening there are chilliness, sore throat, and fever, the temperature rising possibly to 104° or 105°; often the temperature never reaches so high, being not more than 100° or 101°. In weakly children the fever is apt to be of an intermittent type, the temperature touching normal, or thereabouts, the next morning, but in most cases the evening temperature is maintained next morning, or there is only a slight remission. In a well-marked case the mucous membrane of the uvula, soft palate, and tonsils is injected, having a bright red appearance; the tonsils are generally swollen equally and may nearly meet, the secretion of mucus is increased, yellow points appear on the surface, and sometimes patches of yellowish exudation are present. Frequently a semi-purulent discharge appears from the nose, and the cervical glands become enlarged and tender. The tongue is coated with a white fur of varying thickness, and cleans from the edges, displaying the well-known "strawberry tongue," in which the fungiform papillae are engorged and appear to stand out

from a smooth, bright red ground. In the more severe forms, the tonsils, uvula, and edge of the soft palate become covered with a yellowish exudation, ulceration of the tonsils ensues, their surfaces are ragged, and perforation may take place through the soft palate.

Too much care can not be bestowed in all cases of sore throat in examining the child when completely stripped, in order to detect the faintest rash. This rash does not consist in a blush or light erythema which may be present in the evening and gone before morning. The true rash is punctiform; that is, it consists of a number of fine or coarse red points, the congested hair-follicles, the intervening surface of the skin being either pale, as in patients with a faint rash, or bright red from the presence of an erythema surrounding the hair-follicles. The scarlatinal rash may thus consist of a number of bright points on a pale or on a red ground. Sometimes the rash is patchy or irregular on the limbs, thus in some respects resembling measles, this variegated appearance being produced by the presence or absence of the erythema around the congested hair-follicles. The rash appears first about the neck, but sometimes it may be detected earliest about the backs of the hands. The rash fades in a few days; sometimes, when it has only been slight, it has disappeared by the third, but oftener not till the fifth or seventh. It is nearly always followed by desquamation, but it is important to remember that in mild cases there may be no desquamation whatever, and also that children often desquamate after pneumonia, typhoid, and other febrile diseases.

The difficulties in diagnosis presented by scarlet fever principally occur when no characteristic rash is present, or when the case is seen only after the end of the first week, when no history of a rash is to be obtained, and no desquamation is present. It is important to bear in mind that at times no diagnosis is possible, that no conclusion can perhaps be arrived at as to the nature of the disease at any time during its course, and that it is necessary to carefully exclude from their fellows all patients with feverish sore throat so long as any congestion of the fauces remains.

The amygdalitis of scarlet fever is often almost, generally indeed in mild cases absolutely, indistinguishable from that of simple amygdalitis. There are the swollen, congested tonsils, the yellow spots of inspissated secretion marking the position of the crypts, the excess of mucus, the injected uvula and soft palate, and the pain in swallowing. It may not be possible to make a certain diagnosis, but any helps, however slight, are welcome. In the initial stage, the presence of vomiting and diarrhoea, a pulse of 130-160, though the temperature may not be high, marked injection of the uvula, of the edges of the pillars of the fauces, and of the tonsils will serve to render it extremely probable that the case is one of scarlet fever. In the course of a day or two, as the tongue cleans and displays the clean red surface with enlarged and congested fungiform papillae, or the nasal mucous membrane becomes involved, the cervical lymphatics enlarged and tender, or surrounded by cellulitis, or yellow exudation appears over the inner surface of the tonsils and uvula, the probability of the scarlatinal nature of the attack becomes a tolerable certainty. True ulceration of the tonsils, or a sloughing or gangrenous condition of the throat, is almost certainly due to scarlet fever, if diphtheria can be put out of the question. Sequela, such as otitis or nephritis, would be conclusive as to the nature of the attack.

3. *Pseudo-Diphtheritis*.—There is a form of sore throat, occurring both sporadically and epidemically, which has received the names of *angine couennuse*, croupous angina, and pseudo-diphtheritis, which seems to bear the same relation to true diphtheria that epidemic amygdalitis bears to scarlatina. Just as we recognize a form of feverish sore throat that passes from child to child in a ward, or family, or school, that has a striking resemblance to scarlatina but without its rash or sequela, and that appears to be due to a similar but modified form of poison, so we can recognize a sore throat, also apparently contagious, which presents many striking points of resemblance to diphtheria, and yet which we can hardly affirm is the genuine affection. This form of sore throat appears to prevail in districts especially noted for the prevalence of diphtheria, and some believe they can always connect its presence with foul smells or with sewer-gas leaking into the tenements. In its onset it resembles catarrhal amygdalitis rather than diphtheria, for it is generally sudden, and the temperature usually

rapidly rises to 103°-104°. It may be at first one-sided, afterward both sides being equally affected. The tonsils are congested and swollen, and patches of gray or grayish-yellow membranous exudation are seen on their inner surfaces; the membrane is tenacious and tough, but less so than that of true diphtheria. Membranous exudation may also be present on the uvula and soft palate. The attacks, though closely resembling true diphtheria—so much so that in some cases the diagnosis may be impossible—yet differ from it in that the cervical glands are rarely affected, the membrane is less tough and the injection of the mucous membrane less, the nasal mucous membrane is unaffected, there is no albumin in the urine, and the attack is not followed by the usual sequelae. The constitutional symptoms are less marked by depression of the whole system. Such attacks are often spoken of as diphtheritic sore throats, and are prone to affect both children and young adults; the prognosis is good, and in a week, more or less, the patient is convalescent.

4. *Diphtheria*.—The characteristic appearances in pharyngeal diphtheria are well known. The attack is for the most part insidious, and, unlike scarlet fever, there is no sudden onset of fever. Sore throat or difficulty of swallowing is complained of, or perhaps a foetid discharge from the nose, or swelling of the cervical glands, with cellulitis, first calls attention to the case. Probably at the first examination the white or gray patches of exudation will be seen on the uvula, the edge of the soft palate, or the tonsils, while the mucous membrane around is intensely injected. The membrane is raised, not readily separating from the mucous membrane beneath, and, if separated, leaves a bleeding raw surface; there is often much excess of mucoid secretion, the nasal mucous membrane becomes involved, and a sanious discharge from the nose takes place. The temperature is not often high, being as a rule not higher than 100°-102°, the pulse is weak, the face is pallid, the urine is loaded with albumin or, less often, with blood. The only diseases with which pharyngeal diphtheria is likely to be confounded are, in the mild cases, pseudo-diphtheritis and, in the severer forms, malignant scarlatina *sine eruptione*. In the latter case a difficulty may occur when in malignant scarlet fever membranous exudation forms on the throat, the nasal membrane, or the conjunctiva, especially if such a case is not seen from the first and no history of a rash is to be obtained. A difficulty does not often arise in the diagnosis. In scarlet-fever throats true membrane is rare, the tonsils may be covered with yellow exudation, sloughing and perforation of the palate and much external cellulitis may take place, but there is an absence of the leathery whitish exudation adhering firmly to the mucous membrane so characteristic of true diphtheria. There may be albumin in the urine in scarlet fever, but it will be only slight in amount, while in diphtheria there is usually one half or two thirds.

"It is an interesting question," Dr. Ashby observes, in conclusion, "that does not admit of a certain answer. In what relation does epidemic tonsillitis stand to scarlet fever, or diphtheritic sore throat to diphtheria; are the poisons alike and yet essentially different, holding a relationship like that of variella to variola, röteln to measles, summer diarrhoea to Asiatic cholera? Are these sore throats in reality the result of infection with attenuated scarlatinal or diphtherial poison? The remarkable results obtained by Pasteur in the cultivation of the organisms concerned in chicken-cholera and splenic fever are extremely suggestive, and may help to explain how at one time, or in one district, cases are extremely severe, and at another time or place the only effect produced consists in a series of feverish sore throats. Do such attacks of sore throat protect from scarlet fever? Long-continued and collective investigation alone can afford an answer."

THE BITE OF AN EPILEPTIC.—In commenting on a case of alleged death from the bite of an epileptic, the "Lancet" (January 12, 1884) says: There is no poison in the bite of a person in a fit, as there is in the bite of a rabid dog. It is, of course, desirable that every care should be taken to avoid the bite of an epileptic, as it is also that of any other excited or enraged creature; but there is not the slightest ground for supposing that worse consequences will follow an injury of this class than one of any other description, if it be equally severe and is attended on the part of the victim by a morbid state of the constitution.

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,
DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COL-
LEGE OF PHYSICIANS AND SURGEONS, NEW YORK,
FEBRUARY 2, 4, AND 6, 1884.

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN COR-
NELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF
MAINE.

LECTURE II.

*Methods of Manipulation: Removing, Preserving, and Ex-
amining the Brain.*

(Concluded from page 209.)

THE method last described (continuous arterial alinjection*) brings the preservative liquid most abundantly to the parts covered by the vascular pia, and is thus best adapted for the study of the ectal features of the brain, the base, the arrangement of the fissures and gyri, and the contour and proportions of the organ. With fetal brains, where the parietes are thin and the entocœlian plexuses very large, this method may suffice for the due preservation of the en-

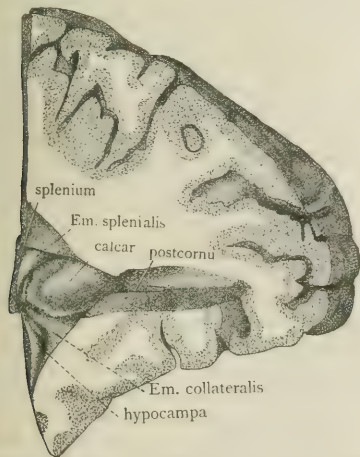


FIG. 44.—THE LEFT POSTCORNU EXPOSED FROM THE LATERAL ASPECT; $\times 1$. Drawn by Mrs. Gage. The brain was that of an adult male; the cœlia were alinjected from a medicornu; the occipital lobe was cut off so as to include a little of the splenium, and the postcornu exposed by a dorso-central section, and subsequent removal of small portions by limited sections in oblique planes. The calcar ("hippocampus minor") is large and well defined; at its caudal end the cornu narrows suddenly and terminates at a point just ventrad of the letter *t* in the word *postcornu*. Ventrad of the calcar is the triangular *Eminentia collateralis*, the cephalic boundary of which is the hypocampa ("hippocampus major"), only part of which is included in the preparation. Dorso-cephalic of the calcar is a smaller but perfectly distinct elevation, which evidently includes fibers of the splenium, and will be mentioned in Lecture III.

tire mass; but with the adult human brain, if the special object be the determination of the form, extent, and con-

nections of the cavities and the contour of their walls, arterial alinjection should be replaced by or combined with the *continuous injection of alcohol into the cœlia themselves*.

Continuous Cœlian Alinjection.—The repeated injection of alcohol into the cœlia is recommended in "Anatomical Technology," p. 435; the feature of *continuity* was introduced in December, 1882, first in the preparation of hearts, and soon afterward for the brain. Its advantages are as follows:

1. It facilitates the preservation of the entire brain.
2. It insures the preservation of the immediate cœlian parietes, and their contour is thus retained (Fig. 44).
3. The apposed surfaces are kept apart, so that there need be no doubt as to the cœlian limits.
4. When either of the parietes is removed, the cœlia appears as a distinct excavation, and not merely a slight depression.
5. In transection, the cœlian lumen is clearly defined (Fig. 45).

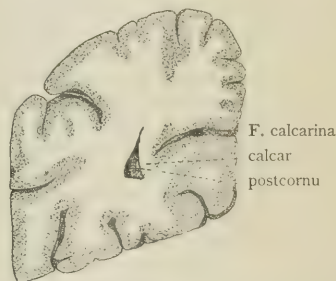


FIG. 45.—CEPHALIC ASPECT OF A TRANSECTION OF THE RIGHT OCCIPITAL LOBE; $\times 1$. Drawn by Mrs. Gage. This represents part of the same brain as Fig. 44; it shows not only that alinjection of the cœlia insures the preservation of the parietes and their separation from each other, but also, by comparison with Fig. 44, the lack of symmetry of the cornua and the calcarina.

The continuity of the flow is provided for by the connection of the cannula through a rubber tube with a reservoir of alcohol; but no considerable pressure is exerted, both because the cavities would be abnormally enlarged and because there might be caused a rupture of the parietes.*

Instead, therefore, of being tied into a vessel, the cannula hangs freely at the end of a straight rubber tube, and near its tip is adjusted a collar made by perforating a disc of sheet rubber,† which prevents its undue penetration into the cœlia. The alcohol displaces any air which may be in the cœlia, and its own overflow occurs at the place of entrance, or at any other orifice, natural or artificial, which may exist. The filling of the cœlia is indicated by the swelling of the whole brain, especially the tips of the tem-

* Notwithstanding the softness of encephalic tissue, its ability to withstand an unexpected degree of pressure is evidenced by the rarity (if, indeed, they ever occur) of ruptures of certain very thin portions of the parietes (*terma*, etc.), and by the fact that alcohol injected into the diacele of a cat by means of a syringe has escaped from the *Caudalis centralis* of the myelon as a stream 8 to 10 cm. long, although the orifice of exit was 42 mm. from the tip of the metacele and 66 from the place of injection.

† Suggested by Professor Gage.

* Injection of alcohol.

poral lobes; if these or other parts have been removed so as to permit the too free escape of the alcohol, the orifices may be more or less completely closed by pledgets of cotton, or by glass plates supported against a smooth cut surface of the brain.

The place of injection varies according to the nature of the preparation desired. When the entire cavity is to be filled, or when the boundaries of the *aula*, etc., are to be studied, the cannula is conveniently inserted into the orifice left by the removal of the hypophysis.* The cannula may even be tied into the *infundibulum*, but this measure is of doubtful utility. If there are reasons for not mutilating the mesal part of the base of the brain, the tip or side of a temporal lobe may be cut off and the cannula inserted into the *medicornu*; or a *postcornu* may be reached in like manner; the tubular *mesocele* ("iter") forms an admirable orifice for the reception of the cannula, and, if the brain be transected at the *mesen*, either division may be alinjected separate.

During alinjection the brain should be supported in such a way as to occasion the least possible pressure. If it can be kept within the cranium, only the base may be exposed, or whatever other region may be selected. If the *cœlian* parietes alone are to be studied, the dorsal region of the skull and the brain may be sawn off to within 1 to 2 cm., of the *callosum*, and the exposed surface supported upon a glass plate; in like manner considerable masses may be removed from the frontal region. Finally, since *cœlian* orifices are easily closed so as not to prevent the success of the injection, the lateral masses of the hemispheres may be removed to within 3 to 4 cm. of the *meson*, and the occipital low *cerebellum*, etc., all separated by a transection through the *mesen*, leaving the most complex and difficult region of the brain comprised within a block 5 to 7 cm. in diameter.

When the entire brain is to be prepared by alinjection into both the arteries and the *cœlie*, the former are washed out with warm water or normal salt solution (water, 2,000; sodium chloride, 15), or a ten-per-cent. solution of chloral hydrate, while it is still in the saturated brine in which it was placed after extraction. The alinjection cannula is then secured in the basilar artery, and the cut ends of other arteries are tied. A towel or other piece of porous cloth is passed under the brain, and the latter thus transferred to a vessel of 50-per-cent. alcohol; the ends of the towel are secured at the edge of the vessel so as to support the brain in its hollow at a proper level, the base being just above the surface of the liquid. In the absence of a metal vessel constructed for the purpose, a common wooden pail may be used, or a metal pail may be pushed through the rim of a wooden one. The flexible (copper or lead) wires for supporting the cannula and tubes may be set in holes in the wood, or in appropriate sockets attached to the metal. The cannula or tube may be merely pinched by doubling

the end of the wire, or more neatly and conveniently secured by means of a small clothes-pin or "garment-clasp" attached to the end of the wire. In all cases, the cannula and its tube should be supported by separate wires, so that the movement of the latter may not affect the former.

The flow of alcohol is regulated by "pinch-cocks"; it is naturally more free through the *cœlie* than through the vessels, and in either case the overflow must be provided for. There should be a faucet near the bottom of the vessel and another near the top, a rubber tube leading from each into a receptacle holding at least as much as the reservoir of alcohol; in the mouth of the receptacle is set a funnel with a fine cloth to exclude particles which might clog the cannulae or the vessels. The ordinary overflow escapes by the upper faucet, but, when some adjustment or examination is required, the lower one is opened until the parts are exposed. The vessel may be covered with two semicircles of glass, or a circle may have a slot cut from one side to permit the passage of the tubes.

A brain preserved by one or more of the methods above described not only retains its natural shape and cavities, but is so firm of texture that it may be handled freely and carried like *stearin*. How much more available it is than a fresh brain for elementary study and for permanent macroscopic preparation can hardly be realized without actual experience. Each year, in our great cities, scores of human brains fail of their greatest usefulness or are altogether lost for lack of timely and systematic preservative measures; each year, likewise, scores of young doctors are graduated without the practical knowledge of the brain which they ought to have. All over the country, too, are curators of museums, physicians, and teachers who would greatly prize a human brain for exhibition or study. The skillful and public-spirited anatomist who will supply this legitimate demand, and utilize this wasted material, will at least be entitled to the gratitude of all who may be directly or indirectly benefited by his enterprise.

The brains of cats and other small animals are more easily cared for than that of man. Ordinarily, they should be left in a part of the cranium, and the edge of this may be clamped to the end of a wire, or the whole supported in a wire cage or a cup of sheet-lead or block-tin.

Amphibian brains should always retain a part of the skull, which may be securely held by means of the "garment-clasp" already mentioned. Since the delicate tissue will not resist even the weight of the cannula, the latter is secured at a little distance from the brain, and the alcohol permitted to flow at the orifice. The best results from alinjection of the amphibian brain as a whole are when the alcohol is admitted through an orifice in either hemisphere;* but, if both hemispheres are to be kept uninjured, the *metatela* may be partly detached. Strong alcohol may be used at the outset, but the brain must be first soaked in water or "normal salt solution" for 15 to 20 minutes to prevent adherence of the pia.

Solid Injections of the Cœlie.—The advantages of a

* No name seems to have been given to this very distinct feature of the base of most brains. The descriptive term *Foramen infundibuli*, which was suggested by me in 1881 (9), and is employed in "Anatomical Technology," becomes, like *alcohol injection*, burdensome when used many times in a day, and I propose to replace it by the single short word *lura*, which in Latin signifies a leathern bottle or the mouth thereof.

* Brains of amphibia (*Necturus*, *Cryptobranchus*, and *Rana*) thus prepared were shown at the meeting of the Society of Naturalists of the Eastern United States, December 28, 1883.

solid cast for studying the form of an irregular cavity are so great and so obvious that the rarity of such preparations is only to be explained by the prevalent neglect of all cœlian matters, which was referred to in the first lecture. In 1878 Welcker (1) published figures of wax casts of the human cœlia; prior, however, to my acquaintance with that paper, plaster casts of portions of the cœlia of the cat and sheep had been made and figured in "Anatomical Technology," pp. 435, 458. More recently the cœlia of the cat have been injected with the three following mixtures:

1. Plaster of Paris and gelatin, equal parts.
2. Paraffin colored with orange chrome, melting point, 45° C.

3. "Base-plate" material (wax and gutta-percha) used by dentists, with a slight addition of gutta-percha and rubber in benzine, and of paraffin to lower the melting point.

All of these made good casts, the last named being the toughest, and therefore most satisfactory.

An adult human brain was also injected *per luvam* with mass No. 3. All the cornua were partially filled, but at their tips there was evidence of the presence of air or liquid, and the force required to carry the mass through the medicornua to a level higher than the place of injection ruptured the attachments of the diatela and so permitted the mixture of the contents of the cœlia and of the diacela. Better results will doubtless be attained by first hardening the cœlian parietes by injection and dividing the brain into several pieces, so as to deal with the cornua independently; if such a division were not made, the cord would inevitably break at the portæ and in the mesocele.

Removal of the Brains of Young Subjects and Small Animals.—The saw is rarely appropriate, excepting when the entire head is to be hemisected. The instruments to be used are nippers, coarse, curved scissors, the trephine, and the dental engine. Of these, the most useful are the nippers, the "diagonal, side-cutting nippers" of the dealers in hardware.*

Notwithstanding their name, the nippers are perhaps more useful for breaking than for cutting the skull in exposing the brain; all pulling upon the dura must be avoided, and the scissors may be employed for dividing the dura or thin portions of the bone. With children one or more years old, parts of the cranial bones are too thick for the nippers, and may be penetrated by the trephine. The little marmoset exhibited at the lecture had its brain exposed by means of a bur and small circular saw operated by the "dental engine," and it is obvious that this instrument is well adapted for manipulations upon small animals and fetuses, especially when the brain is to be exposed while fresh, so that

any pressure or traction may do harm; by it also the calva may be detached in two pieces, as already described, for the adult, and, finally, the base of the skull may be removed piecemeal, either for ordinary exposure of the brain or in the isolation of the roots of the cranial nerves.*

After what has been said of supporting the adult brain in brine during the process of removal, it is only necessary to add that this measure is even more essential with fetuses of children; the entire body should be, if possible, placed upon a cloth in a vessel of the brine, the head being steadied upon a bed of cotton or held by an assistant.

Dissection of the Brain.—From the practical standpoint, encephalic anatomy contrasts strongly with the anatomy of the rest of the body. With the latter, dissection is universal, and sections are seldom made; with the former, sections, microscopic or macroscopic, are the rule, and dissection almost unknown. The difference is due to the "nature of things," just as is the preponderance of osteology over neurology, but, like many other natural conditions, it may need modification.

The advantages of sections for surgical, pathological, and regional study are obvious; they are easily made, even with the fresh adult human brain, especially by means of the apparatus devised by Professor Dalton.† If the human brain were like that of a frog or *Necturus*, or even an opossum, with the several segments of approximately equal size, and nearly upon the same plane, the common method would be more appropriate for macroscopic study. But, in view of the extreme cephalic flexure and the overlapping of certain segments by others, the objections to sections are as follows:

1. They present plane surfaces which do not naturally exist in the brain.
2. They are almost invariably oblique with respect to the cœlian axis.
3. They always include more than one encephalic segment, and are therefore, so far as the beginner is concerned, apt to be more confusing than instructive.‡

The foregoing apply to all sections. A macroscopic section, especially of a brain which has had the cœliae aligned, presents the advantage of exhibiting in perspective enough of the natural contours of parts to facilitate their recognition and comparison.

Admitting, then, that sections have their uses, what I urge is, not that section-making be practiced less, but dissection more.

The methods of dissecting the brain taught in the Anatomical Laboratory of Cornell University* may be indicated briefly as follows:

* The dental engine is also useful for drilling bones in the mounting of skeletons, and for experimentation upon the brain.

† "Medical Record," February 15, 1879, July 31, 1880.

‡ The following vigorous expressions refer directly to horizontal section: "It is unfortunate indeed that candidates for the medical diploma are still very generally required to describe the appearances presented by the brain dissected, or rather destroyed, by the old method of slicing—a method most unphilosophical in its conception, and totally inadequate to impart any real information in regard to the structure of the brain."—Solly, p. 12.

* In addition to a somewhat extended account of encephalic structure and development in the general courses of lectures upon physiology and vertebrate zoölogy, a special course is given upon the brain.

* "Anatomical Technology," Figs. 10, 11. Seven sizes are made, ranging in length from 10 to 20 cm. (4 to 8 inches). The largest will cut any bone of a cat, or of a child under three years of age, but the medium-sized (15 cm.) answers for most purposes, and the smallest only can be safely employed in exposing the brains of amphibia. The handles of the smallest nippers should be lengthened so as to be more readily grasped, and, for the finest work, the points of the blades should be sharpened. The English (Stubbs') nippers are more highly tempered and better finished than the German, and also more expensive, but none of them cost as much as the surgical "bone-forceps" or the dental "wedge-cutters," the only advantage of which is the spring.

1. The art of dissection is acquired upon the brains of common mammals.

2. Alcoholic brains are dissected before fresh ones.

3. The normal macroscopic structure of the organ is carefully studied before the microscope is used or pathological specimens examined.

4. In addition to sections with large knives, *dissections* are made with small scalpels, and cavities are explored with blunt points and blow-pipes.

5. Delicacy of manipulation is insisted upon.

Let us examine into the soundness of these methods.

1. Aside from facilitating the comprehension of encephalic morphology (Lecture I, p. 147) and imparting manual dexterity (which will be referred to farther on, and might be acquired in the carving of any material of like consistence), the value of preliminary dissection of the brains of common mammals depends upon the correctness of the three following propositions: (1) The human brain, even under the most favorable conditions, is more or less difficult to obtain, preserve, and dissect. (2) The most real and lasting kind of knowledge is that which is obtained, not from descriptions, or plates, or even models, but from *actual handling and inspection of the thing itself*. (3) Notwithstanding man's obvious physical peculiarities, his reputed mental and moral distinctions, and his presumed unique destiny, the human brain contains few, if any, parts visible to the unaided eye which are not represented in the brain of some other mammal.*

As compared, therefore, with the study of descriptions or plates of the human brain, the actual brains of cats, dogs, rabbits, monkeys, sheep, etc., may be examined in the expectation of learning the forms, connections, and relative positions of parts, and, neither last nor least, their *names*; in short, everything save the comparatively few differential human peculiarities, with all the reality and distinctness which attend any kind of "object-teaching." In the effort to ascertain the structure of the far-off Australian "Dingo," we should certainly familiarize ourselves first with so much of canine anatomy as might be learned by dissecting dogs nearer home.

Were the human brain absolutely inaccessible for dissection, as it is for experimentation, the anatomist would be forced to follow the example of the physiologist and gain all his encephalic information from animals. In view of the inconvenience and expense—nay, too often, the impossibility—of procuring fresh or well-preserved human brains, to permit their dissection by beginners is, as I said five years ago,† as if journeymen carpenters and tailors were to learn their trades upon rosewood and cloth of gold. "*Fiat experimentum in corpore vili.*"‡

* Let him who imagines that between the bodies of men and brutes is fixed a gulf, great and impassable, revert to the representations of the brain in amphibia and in human and feline embryos (Figs. 1, 6, 11, 12, 13), and carefully compare with the base, meson, and other regions of the human brain the corresponding parts of a cat or monkey.

† "The Anatomical Uses of the Cat." "N. Y. Medical Journal," October, 1879.

‡ Among the few anthropotomical authors who seem to have recognized distinctly the application of this aphorism to anatomy was Solly: "I have been thus minute in my description of the brain of the rabbit,

The smaller size of animal brains constitutes an objection to their preliminary dissection which is more apparent than real, and is, indeed, almost a "blessing in disguise." Since there is practically no limit to the number of animal brains which each student may dissect, the mistakes or oversights with one specimen may be corrected upon others; moreover, as was foreseen by Cuvier in advising a student who claimed to have found something new in human anatomy to anatomize an insect and then re-examine his supposed discovery, whoever has successfully dissected the brain of the cat will find no difficulty with that of man.

2. The second rule is based upon three practical considerations: (1) Of the visible features of encephalic parts, *form, relative position, and connection* are distinctly morphological, while *color*, like histological composition, has a physiological significance. (2) The fresh brain is less easy to cut, and requires constant support, whereas the alcoholic may be held in any position and carved like cheese. (3) The beginner should advance cautiously, and therefore slowly, and the medical student is especially liable to interruption. The fresh brain remains fresh but a very short time, while the alcoholic is in itself imperishable. Leisure means not only more careful dissection, but also the taking of notes and the making of drawings; hence all the arguments which I have advanced* in favor of preliminary anatomical work upon a small animal, which may be kept in alcohol for an indefinite time at slight expense, apply to all alcoholic brains in general, and to those of cats and other animals of moderate size in particular.

After repeated dissection of alcoholic preparations, the anatomist is better qualified to manipulate the fresh brain and to appreciate its beauty. I use the last word advisedly, for, however unattractive may be those "subjects" and pathological "cases," the most exacting artistic sense can hardly fail of satisfaction with the soft white and gray and pink of the newly extracted brain. Resting securely in its calva, for him who has been disciplined by prolonged experience with the "pickled" organ, there are few more attractive, stimulating, or nourishing articles of intellectual pabulum than a fresh brain "upon the half shell."

3. This rule is in strict accordance with common sense, and with custom in most branches of learning. Its two divisions have been separately enunciated by writers who certainly were not ignorant whereof they spoke.† Whether because this animal is always easily to be procured, and because I am sure that whoever will take the trouble to go over this dissection once or twice before attempting that of the human brain, will find his path much facilitated by the knowledge and the manual dexterity he will have acquired."

* "The Anatomical Uses of the Cat." "N. Y. Medical Journal," October, 1879.

† "I beg of you not to employ the microscope until you have, to a certain extent, mastered the details of descriptive anatomy. As soon would the astronomer place the telescope in the hands of his pupil . . . as would the judicious teacher of anatomy suggest the examination of objects by the microscope before strict ideas of form and relation had been acquired by the study of the visible parts."—Goossens.

"In all departments of investigation it is right to commence with the study of that which is common, simple [normal], and regular, and thence to proceed to inquire respecting that which is unusual [abnormal] and irregular."—BUCKNELL and TUCKER, "Manual of Psychological Medicine."

or not, in some cases, the authors of histological papers are altogether clear respecting the position and relations of the parts concerned, the systematic observance of this rule would at least reduce the number of readers of such contributions who neither appreciate their excellences nor recognize their defects from a lack of adequate familiarity with the gross anatomy of the brain.

The objections to the primary employment of the microscope do not apply to the use of a simple lens like the "tripod magnifier" or "linen tester," which assists the eye to see more plainly that which is already visible, but introduces neither optical nor histological complications.

4. Large knives are useful in making sections, and in reducing the brain so as to permit ready access to the region to be examined. But it is to be noted that, excepting at the meson, the encephalic parts are never bounded by plane surfaces, or by straight lines, so that the natural contours are more easily and successfully exposed by means of narrow-bladed scalpels and probe-pointed instruments. The so-called "Charrière" scalpel answers the purpose generally, but sometimes, especially with fetuses and small animals, eye-knives with still narrower blades are required. In the exploration of cœlix and the determination of the relations of membranes and plexuses, the dissection is accomplished less by cutting than by "poking" and "blowing," for which the syringotome, or tracer, and the flexible blow-pipe,* are indispensable. Whoever once employs the first-named instrument upon the brain will never willingly be without it. The length and flexibility of the blow-pipe enable one to blow in any direction, and to hold the object at a distance convenient for observing the effect of the inflation. So instructive indeed is this mode of temporary injection that one of Oliver Wendell Holmes's "Aphorisms for Dissections" may be extended to read: "Let the eye go before the hand, the mind before the eye, and the breath before the mind."

This rule is aimed at all forms of anatomical Philistinism. Hyrtl complains (p. 62) that "some people hold the forceps like fire-tongs, and the scalpel like a cheese-knife." One of the most common and pernicious habits of the anatomical beginner—who is a Philistine only when he makes no effort to reform—is that of aimlessly pinching and poking his specimens, especially when showing them to others. This *poking* may be most aptly compared with the dabbling which hens inflict upon a piece of meat. The anatomist should exercise constant self-control, restrain what Hyrtl calls the "*Furor secundi*," and never touch his specimen except for a good and sufficient reason. From the ecclesiastical standpoint, perhaps, the "laying on of hands" can not be overdone, but in practical anatomy its excess is likely to

prove the reverse of a blessing. These cautions are called for in respect to the dissection of muscles, etc., to which the examination of the brain is as watchmaking to the wielding of hammer and tongs.

THE GEOGRAPHICAL DISTRIBUTION

OF

URINARY CALCULUS,

WITH AN INQUIRY INTO ITS CAUSE.*

By EDWARD L. KEYES, M.D.,

PROFESSOR OF CUTANEOUS AND GENITO-URINARY DISEASES IN BELLEVUE HOSPITAL MEDICAL COLLEGE.

It is a fact universally recognized that stone occurs much more frequently in certain portions of the world than in others, but a satisfactory explanation of the fact has not yet been established. It is customary to ascribe it to the hard waters of the affected districts, but investigation disproves the validity of such a claim. Agnew† states that in certain valleys in Lancaster County, Pa., of limestone formation, the water is very hard, being strongly impregnated with lime, yet calculus is not common in these valleys, and he joins former writers in the very apposite reflection that it is difficult to understand how calculi, most of which are composed of uric acid, should be stimulated into growth by the use of alkaline lime-water.

Civiale, whose statistical researches on this subject were very thorough, has written:‡ "Dr. Warren, of Boston, recently told me that stone is very rare in Massachusetts, and is almost unknown in those localities where granite rock abounds, while it is found occasionally at other points where the soil is calcareous. But this alleged influence of the nature of the soil upon the production of calculous disorder is an hypothesis only admitted to explain facts the true cause of which is not evident. Several of the localities from which I have received statistical documents possess the granite formation, yet, in spite of this, calculus is far from being a rare disorder there. I may cite among others certain points in Sweden."

Again, speaking of the stone cases reported from the department of Var in France, he says: "The malady seems to be equally divided among all classes of society; the nature of the soil, which is flinty and granite on the coast and calcareous in the interior, does not appear to make any sensible difference in the distribution of the cases."

Cadge,§ of Norwich, England, on the other hand, ascribes the great frequency of calculous (uric acid) disorder in that district to the hardness of the waters. Prout distinctly states his belief that hard waters are a factor in the production of stone, and many excellent urinary pathologists and practical surgeons agree in this way of thinking. Reginald Harrison|| tries to explain it on the ground that hard waters interfere with digestion, and in that way

* These instruments are figured and described in "Anatomical Technology," pp. 64, 66, 71. The syringotome is a small, curved, blunt-pointed bistoury, sometimes called "canaliculus knife." The tracer—a much cheaper instrument, made at my request by Messrs. Codman & Shurtleff, of Boston, Mass.—serves an admirable purpose in ordinary dissecting (especially in isolating nerves and vessels), and in experimentation where there is danger in using the scalpel, but for work upon the brain is far inferior to the syringotome. The attachment of a rubber tube 30 to 40 cm. long to either half of an ordinary metal blow-pipe was first, so far as I know, suggested by a former student, Mr. C. F. Clark.

* Read before the New York Surgical Society, February 12, 1884.

† "Surgery," vol. ii, p. 631.

‡ "Affection calculeuse," Paris, 1838, p. 588.

§ "Trans. of the Brit. Med. Assoc.," 1874.

|| "Lectures on the Surgical Disorders of the Urinary Organs," second ed., 1880, p. 246.

modify the conditions of the solids in the urine and the state of the colloids. He adduces in support of his argument the frequency of stone in the bladder in the young among the poor about Norwich, and the fact that milk is scarce and dear, and quotes from the essay of Cadge that the frequency in this district of the occurrence of stone in children "will be found in strict accordance with the difficulty of procuring milk."

In this connection, as to the liability of drinking-water to stand in a causal relation to calculous disorder, it is proper to call to mind a fact vouched for by Roberts,* and only to be explained on the ground of coincidence or of cause and effect. He says: "The suburban district of Hulme supplies considerably fewer cases of stone to the Manchester Infirmary since the pipe-water has replaced the old pump-water supply."

It is proper also to refer to a curious indirect means by which the drinking of water may prove a source of stone formation. Zancarol,† surgeon to the Greek Hospital at Alexandria, Egypt, states that the natives drink unfiltered Nile water and imbibe the *Distoma hematobium*. That the animal and its ova can always be found in the urine and among the layers of stone extracted from the natives, and that the latter suffer frequently from calculous disorder. Foreigners, on the other hand, who drink only filtered Nile water, do not often have stone, and their urine does not contain the distoma or its ova.

Roberts‡ also ascribes the frequency of calculus in Egypt to the presence of the minute urinary parasite, the *Bilharzia hematobia*.

But to return to the water question pure and simple. Mastin* takes the other side of the argument, showing that in Kentucky and Tennessee sandstone districts, where the water is very soft, calculous disorders are common, while they are just as frequently encountered in the limestone areas of the same region, where hard water is drunk. In Alabama, where stone is quite uncommon, Mastin says there have been only fifty to seventy-five operations performed upon the natives of that State since its settlement in 1817; most of the cases have originated in a belt of country running east and west, and including Tuscaloosa, "a pure sandstone region, with the softest and best water in the State." Mastin further adds, in connection with the question of stone in Alabama: "The northern and eastern sections abound in blue limestone, and the water is very strongly impregnated, yet we rarely, if ever, hear of a case of gravel or limestone within these limits. Again, in middle and southern Alabama the base of the soil is what is known as 'rotten limestone,' and the water strongly alkaline; this is also the case in eastern Mississippi, and still we have been unable to obtain reliable information of even a half-dozen cases of stone having ever occurred in these regions."

He cites also Dr. Guild, the leading surgeon of Tuscaloosa, as asserting that all his stone cases have come from the sandstone district where soft water is used.

Therefore it seems fair to assume that whatever influence hard water may have in the production of stone must be exercised in some secondary manner, as by deranging the digestion—if it operates at all—which may be considered doubtful.

Probably no country is entirely free from areas in which stone formation is relatively prevalent, but the distribution of these areas seems to be arbitrary. Thus, in England, where stone is quite common, the eastern counties of Norfolk and Suffolk appear to be most afflicted. It is noteworthy that as many cases occur each year in Norfolk, among its 438,656 inhabitants (Cadge), as in all Ireland, with a population of 5,412,377. The northern counties of Ireland and of Scotland furnish more cases than the remaining portions of those countries.

Calculous disease abounds in France, as Civiale has clearly brought out, in Teneriffe, in Iceland, in Egypt. It is also very common in Russia, especially in the central parts of European Russia. Klein* states that cases of stone sometimes constitute a fifth of all the patients under treatment in the hospitals of Moscow.

Estlander,† on the other hand, shows that primary calculous disorders are almost unknown in Finland, the University Hospital case-books containing the case of only one Finlander with stone originating in the kidney during a period of forty-four years. There were cases of phosphatic stone with paralyzed bladders, etc. Civiale‡ notices a similar immunity in Christiania, where, out of 3,211 patients in hospital during four years, only one had stone; while in the hospital of Gothenburg, in Sweden, an establishment of sixty beds, there had been no stone case since the founding of the institution, a period of fifty years.

Fayrer,* a well-known authority upon medical questions in India, states that stone is very frequently encountered in the northwestern and central provinces of that country; 554 patients were cut for stone during a single six months in 1863. In Lower Bengal stone is rare. Fayrer|| says that lithotomy had been performed only about one hundred times in the Medical College Hospital up to 1873. Harris confirms the fact as to Bengal, and ascribes the prevalence of the malady in the northwestern provinces to the cold winds which blow from the Himalayas and to a heavy unfermented bread used by the natives. Dr. Garden's testimony^A from the Sarahunpore Dispensary is corroborative of the frequency of stone in India. Mastin◇ refers to Curran for authority in stating that Hindostan is exceptionally rich in stone cases. Vandyke Carter‡ speaks for Bombay and the great prevalence of oxalate-of-lime calculi in that region. He thinks that stone is more common in Bombay or West-

* "Ueber die Steinkrankheit und ihrer Behandlung," "Archiv. f. klin. Chir.," Bd. vi, p. 78.

† "Trans. of the Int. Med. Congr.," Philadelphia, 1877, p. 663.

‡ "Affection calculeuse," Paris, 1838, p. 580.

* Referred to by Coulson, "Dis. of the Bladder," etc., sixth ed., p. 378.

|| "Clinical and Pathological Observations in India," 1873, p. 385.

◇ "Indian Annals of Med. Science," 1868, No. 23, p. 20.

△ Loc. cit., p. 618.

‡ "Calculous Disease in Bombay," "St. George's Hosp. Repts.," 1871-'72, p. 82.

* "Urinary and Renal Disorders," second Am. ed., 1872, p. 274.

† "Rev. de chir.," August 10, 1882, p. 645. ‡ (Op. cit., p. 275.

* "Causes and Geographical Distribution of Calculous Diseases."

"Trans. of the Int. Med. Cong.," Philadelphia, 1877, p. 609.

ern India than in the Southern or Madras Presidency. Mr. Dudgeon,* of Pekin, who succeeded Kerr in China, informs us that in China, at Canton, and Takow in Formosa, calculus is found, but apparently not elsewhere. At Pekin the water is full of lime, at Canton very soft. Kerr† also states that Canton furnishes the stone cases of China, the missionary hospitals of twenty years' existence in Ning-po and Shanghai and at Pekin and Hangkow for eight years having supplied attendance to thousands of patients, but not to a single case of stone. The Rev. P. Parker, it appears, founder of the Medical Missionary Society, performed the first lithotomy of which there is any modern record in China.

In Norway, Sweden, Denmark, Styria, and Spain stone is not very common.

In France and Holland it is abundant; in Austria, Germany, Italy, Persia, and Syria it is reasonably frequent in occurrence.

In Mexico, Central and South America, and Australia, so far as known, the disease is not common. Livingstone failed to find syphilis or stone among the natives of Central Africa.

In North America—in the United States—the greatest number of stone cases originate in the central districts—Tennessee, Kentucky, Ohio, Indiana, Missouri, western Pennsylvania, Virginia. In Utah it is said to be common. Authorities differ as to Georgia and North Carolina. In the Northern, Eastern, Gulf, Southern, and Western States calculus is uncommon, as it is also in the Canadas and British Possessions.

These irregularities of distribution are not satisfactorily accounted for by any peculiarities of race, food, habits, soil, climate, temperature, or water.

I am speaking of primary acid stone formation. Secondary phosphatic stone, due to obstructive and catarrhal maladies of the genito-urinary tract, or to the presence of a foreign body, are found equally in all climates and in all conditions of life, provided only the proper ætiological factors are present locally in the individual.

Why, then, does the fact exist that certain portions of the earth's surface are more fertile in stone cases than other portions.

Race may have something to do with it, even under the same conditions of climate, etc. Gross,‡ among the lithotomies reported during a certain period in different Southern States of mixed population, found the proportion to be one negro to six whites. Rayer states that the negro escapes in Egypt while the Arab suffers. Mastin* has collected 3,039 reliable lithotomies in America, and finds only 102 put down to the negro, 31 to the mulatto. Mastin further notices that gout is very rare among the black people in the United States, and he quotes Winterbottom as vouching for the same fact for the native Africans around Sierra Leone. These statements appear to have a direct bearing upon the question. Reports like those of Livingstone concerning the negroes of Central Africa are not in point, since

the districts did not contain a population of mixed races for comparison.

Climate.—That climate alone should influence stone formation seems improbable. There is no striking analogy of climate between Moscow and Kentucky. Temperate zones seem to be most afflicted, yet the cold winds of the Himalayas and the general boisterousness of the winds about Norwich, England, have been accused of contributing to the stone tendencies of those regions. The central districts of the United States, however, are not pre-eminently windy. In France, Civiale found the proportion of cases in the Var district the same inland and on the coast. The New England shores are subject to dampness and boisterous north-easterly gales, yet the calculous malady is not common there. Soldiers and sailors are reported by all who have given attention to their statistics to be remarkably free from stone, yet their life is surely one of exposure, and the reason for their immunity must rather be set down to the fact that most men practicing these professions are between the ages of twenty and forty—a period of life most exempt from stone.

Social condition, habits, and occupation are not paramount as ætiological factors of stone, although they have a certain bearing upon it. Civiale distinctly states that in his collections in France social position made no difference in the relative number of cases found in a certain district. Undoubtedly there are more stone cases among the poor than among the wealthy, but the latter class is very small in any community, and nearly all the cases of the poor go to hospitals for operation, where they are sure to be recorded, while the wealthy escape tabulation to a certain extent.

In New York there is very little tendency to stone formation. During nearly thirteen years' connection with active surgical work in the Bellevue and Charity Hospitals, I have found in my service only two cases of stone. All the others with which I have had to do in hospital have been sent in by myself from outside. By far the greater portion of stone cases which I have had to do with have been found among patients in easy circumstances, but this, of course, is accidental, and by no means indicates that more wealthy than poor people have stone in New York.

Thompson,* however, remarks that he does not "know any disease which marks more distinctly or more curiously its relations with class than this. So common is stone in the children of the poor, comparatively speaking, that at Guy's Hospital, surrounded as it is by a very large neighborhood, densely populated by some of the worst-nourished classes of the community, quite one half of the cases admitted are children. Among the same classes, however, it is rare at the other end of life, very few elderly workmen in London being afflicted with it. On the other hand, among the well-to-do and well-fed, while almost never found in childhood, it is comparatively common in advanced age."

Alcohol.—It is doubtful whether alcohol will produce stone without other predisposing agencies. In large cities alcohol is consumed freely, but no statistician has noted a special

* "Calculus in China," "Med. Times and Gaz.," September 2, 1876, p. 252.

† "New York Med. Jour.," 1871, p. 365.

‡ *Op. cit.*, p. 168.

* *Loc. cit.*, p. 618.

* "Clinical Lectures on Diseases of the Urinary Organs," sixth edition, 1882, p. 67.

prevalence of stone among adult dwellers in cities over the relative average among the natives in the surrounding counties. An abundance of liquor is consumed in Scotland and in Ireland, doubtless as much as or more than in England, yet the latter locality is the favorite one for stone. Some wines, like the Rhine wines, as Soemmerring has pointed out, being charged with bitartrate of potash, rather militate against tendencies to stone, but sweet, fermented wines, champagnes, and malt liquors, since they increase the tendencies toward uric-acid formation, undoubtedly aggravate any predisposition to stone formation which may already exist.

Food alone can not materially promote stone formation by its quality, although where the tendency exists it may be intensified by the quality of the food. Thus, in India, Vandyke Carter found oxalate-of-lime nuclei among the calculi of the rice-eating natives. But it is not starch as food that causes stone, or the potato-eating Irishman would be prone to it, which is not the case; nor is it rice-starch, or the Chinaman would be as constant a stone-producer as the Indian—which, again, is not the case.

In Europe and America uric-acid stones are the rule; but, if a meat diet caused stones, the latter would be much more common in cities, where much meat is consumed, than in the surrounding country—which, again, has not been noted as a fact.

Abundance of milk as a diet has been supposed to avert tendencies to stone, and probably this is true, but alone it is an insignificant factor. Indigestion, again, has been accused of causing stone formation, but, if indigestion alone were a main cause, surely the disease ought to be rampant in New England, where hot bread, pie, and rapid eating, with accompanying bad teeth and dyspepsia, are the order of the day among the people; and yet stone is very rare in New England. A possible reason for the relative frequency of oxalate of lime in the calculi of India may perhaps be found in the well-known disturbances of the liver which are said to be common in that climate, the cause of oxaluria being often, in this country at least, associated, if not identical, with functional hepatic disturbance.

Constitution.—It is probably not doubtful that gout and rheumatism increase any existing tendency there may be to stone formation, because these diathetic conditions are accompanied by acidity of the urine as a rule, with a tendency to abundant excretion of uric acid, urates, and the like. A gouty individual, leading a sedentary life, drinking beer and champagne and eating a highly nitrogenized diet, especially if he does not exercise, having a little dyspepsia, and constantly kept anxious about his business, is exactly in a fit condition to form stone easily. Cases of kidney colic with the passage of small acid concretions are constantly furnished by this class of individuals.

Allowing, then, if the foregoing representations are accurate, that water, climate, soil, occupation, exposure, digestion, alcohol, and food are not responsible for the geographical distribution of stone, granting some weight to race and social condition and considerable influence to the rheumatic diathesis, what factor remains to be considered, for surely these alone are not entirely sufficient?

The only one which seems capable of filling up the gap is heredity.

As gout is hereditary, so are the tendencies to stone. I have at present under observation a family in which three generations, all living, have strong and constantly outcropping tendencies to the appearance of fine uric-acid gravel. The baby of four years and the grandfather of seventy manifest it about equally. Mr. William Cadge,* in discoursing recently to the Norwich Medico-Chirurgical Society about a woman with sacculated bladder and stone, mentioned that the patient's father had died after lithotrity, and that her brother, living in Buckinghamshire, was then said to be suffering from stone. The most celebrated recorded instance of inherited tendency to stone, so far as I am aware, is that reported by Mr. Clubbe,† of Lowestoft, where six children all had stone, the father and mother passed quantities of uric acid, the grandfather, grandmother, great uncle, six uncles, four aunts, and a cousin, all had had attacks of gravel or had been cut for stone.

It seems to me not very improbable that hereditary tendency lies at the bottom of the regional distribution, and largely accounts for the peculiar geographical localities of stone. Generation after generation, growing up in the same region of country and intermarrying, would naturally reproduce and intensify any such physical trait as a tendency to stone. I am aware that it has been claimed that strangers going to Norwich have developed stone, having shown no tendency to it in their own land; but it would take a large array of such facts to constitute anything more than a coincidence.

In former years of slow locomotion the few who emigrated married others with different tendencies, and so failed to spread the habit, or married others with like tendencies, and thus established new areas of stone formation.

Food, drink, and surroundings may have intensified or modified these natural tendencies more or less, but that the essence of the geographical distribution of stone (primary, acid stone) lies in intensified and reduplicated hereditary predisposition seems to me at least plausible in lack of a better general explanation.

With modern improvements in rapid transit and facility and cheapness of locomotion, it seems at least possible that the centers of stone formation may be somewhat broken up, and, by more general and mixed marriages, the disease become more extended in geographical area, but less active.

1 PARK AVENUE.

THE INCOMPATIBILITY OF IODIDE OF POTASSIUM WITH SULPHATE OF QUININE.—The Paris correspondent of the "British Medical Journal" says: At a recent meeting of the Société de Biologie, M. Rabuteau made a communication concerning the incompatibility of iodide of potassium with sulphate of quinine. He frequently observed that when these two substances are administered together, or one a short time after the other, even in small doses, such as one gramme of iodide of potassium and half a gramme of sulphate of quinine, anorexia, nausea, and even vomiting frequently ensue, accompanied by colic. The pulse becomes feeble, accompanied by paleness, and a feeling of worry and fatigue.

* "Lancet," January 5, 1883, p. 6.

† "Hereditariness of Stone," "Lancet," February 10, 1872, p. 204.

CELLULITIS OF THE ORBIT.*

By THOMAS R. POOLEY, M. D.

THE gravity and importance of inflammation of the cellular tissue mainly depend upon the situation in which it occurs. This is especially true of the loose connective tissue which is so plentiful in the orbit, because of the disastrous results which may ensue to the integrity of the eye by the pressure which the swollen and hardened cellular tissue exerts upon the optic nerve and the blood-vessels which supply the eye. At the last meeting of the society, Dr. Williams, of Boston, made some very interesting and practical remarks upon "Orbital Cellulitis as a Sequence of Facial Erysipelas." While reference will be made to an unusual and interesting case of this kind, which I am allowed to use through the kindness of Dr. Knapp, my remarks will, in general, have to do with a less dangerous form. The literature, especially of late years, on this subject is very voluminous, and it is no part of my plan in presenting this subject here to attempt to refer to all the papers I have read. I shall confine myself to a brief consideration of the more important facts in connection with the two cases I desire to report. Both of these cases belong to the so-called idiopathic forms of cellulitis, and terminated favorably.

CASE I.—On the 27th of March, 1883, I was asked to see the ten-year-old daughter of a colleague. I found that the child had been obliged to come home from school the day before because she felt too ill to attend to her studies. There was, however, very little pain, but a general feeling of malaise. The next morning the lids began to swell, and there was a feeling of pain and tension in the left eye. By the time I saw her there were very considerable tense swelling of the eyelid and some chemosis, but no purulent or other discharge, except lachrymation. The lids were very hot, the tongue was somewhat coated, the pulse was rather frequent, the movements of the eye were not restricted, nor was there any noticeable degree of exophthalmus. In the belief that the case might develop into diphtheria of the conjunctiva, I ordered the constant use of ice compresses. In the course of the next day or two the character of the disease remained much the same, but no diphtheritic membrane formed on the lids. On the contrary, the symptoms now pointed very clearly to an orbital process. The eyeball began to show moderate protrusion, and became restricted in its movements in all directions. I told the father that there was evidently cellulitis of the anterior portion of the orbital cellular tissue, and advised the use of hot applications, and, should the severity of the symptoms increase, the possible necessity for an incision. An examination of the fundus showed no symptoms of pressure on the central vessels of the retina or the nerve.

I asked the father to call Dr. Agnew in consultation, which was done on the following day. He agreed with me as to the character of the affection, and suggested, in addition to my treatment, the use of calcium sulphide, one-tenth grain every two or three hours. At the suggestion of the child's father, we also gave a full dose of calomel. In a day there was marked improvement, less protrusion, and freer movements of the eye, with diminution in the swelling of the lids. I now interrupted the hot applications for some hours, and applied a pressure-bandage. Under this plan of treatment rapid recovery ensued,

the child had quite recovered in a week, and in ten days from the beginning of the attack went back to school. In regard to the cause of the disease, most carefully sought for, we remained in ignorance.

CASE II.—W. D., twenty-four years of age, had contracted syphilis, and had at the time I saw him secondary manifestations of a late character, also stricture of the urethra, for both of which conditions he was under the treatment of his family physician, Dr. C. F. Roberts. The evening of the day before I was called to see him, in consultation with his physician, after a long drive in the cold he had a severe chill, followed by pain in the head and in the left orbit, which became toward night excruciating in character. This was very soon followed by swelling of the lids and protrusion of the globe. I saw him the following night, November 19th. He looked extremely pale and haggard, and was evidently suffering great pain. I found both eyelids swollen, dark red, hard, shining, the conjunctiva chemotic to such an extent that it protruded beyond the eyelids; the eyeball was moderately protruded and almost immovable; any effort to make movements was accompanied by great pain. The pupil was moderately dilated, the cornea was sensitive, the ophthalmoscope showed a normal fundus, and his sight seemed unimpaired. No fluctuation could be found, but the outer border of the orbit seemed to be somewhat sensitive to pressure. His pulse was about 110; the temperature not taken at this visit. I made the diagnosis of acute cellulitis of the orbit, and directed that hot compresses be applied to the eye throughout the night. He was also given a hypodermic injection of morphia to still the pain, which was intense. Early the next morning I met his physician, prepared to make an incision into the orbit to liberate pus, which I fully expected would be formed by that time, but we found the patient so much improved that we determined to wait. The pain was less, and so were the swelling of the lids and the exophthalmus, the eyeball moved more freely, the pulse was less frequent, and his temperature in the mouth was normal. Moreover, the ophthalmoscope showed no evidence of any embarrassment of the circulation in the eye nor change in the optic disc.

Under these circumstances we staid our hands, and directed a continuance of the hot applications. In the evening the improvement was still more decided, and the compresses were continued through the night. November 22d, the swelling of the lids was still more abated, the exophthalmus was almost gone, movements of the eye were apparently restored, except a slight impairment in both lateral directions. It was now directed that he should have the hot compresses applied for an hour three times a day, and a pressure bandage, as firmly as he could bear, in the interim. November 23d, the swelling of the lids, chemosis, and exophthalmus were gone. Movements of the eye seemed to be normal, but, in looking obliquely upward to the right, he saw double. From this time on he made a perfect recovery, although the diplopia persisted for some days. It may be added that there was no evidence of gonorrhoeal rheumatism in any of the joints, nor of periostitis.

The speedy and complete resolution, without the inflammatory process going on to the formation of pus, in both of these cases was very gratifying.

In the first case the disease was evidently not of severe character, and it seems probable only affected the anterior portion of the orbital tissue; but in the other the violent onset of the disease suggested that the area of tissue affected was much larger, and extended to the depth of the orbit.

The brief description of these two cases suffices to bring out the salient symptoms of the disease; but let us enumer-

* Read at the annual meeting of the Medical Society of the State of New York, February 5, 1884.

ate them more in detail. As prodromes, we have chill, fever, cephalalgia; sometimes vomiting and epistaxis; occasionally delirium and convulsions; protrusion of the eye, which generally sets in suddenly (the direction of the deviation is, as a rule, straightforward, or forward and outward); impairment of the normal movements of the eye, very variable in degree, according to the severity of the process. This symptom may affect only the movements in certain directions, or all the muscles may be involved to such an extent that the eyeball remains immovable. As a consequence of this, diplopia may occur at any stage of the affection, until the poise of the muscular force is restored to the normal. Swelling of the lids is the most constant and earliest symptom. In most instances the upper lid is the more swollen of the two. If, however, the orbital inflammation has been excited by disease in the antrum of Highmore or dental caries, the maximum swelling may be in the lower lid. The characteristic swelling of the lid is oedematous or a high grade of hyperemia, rarely caused by pus-infiltration. Chemosis, or swelling of the ocular conjunctiva, is also among the earlier and constant symptoms; in many cases it is very great, as it was in our second case, being sufficient to force the conjunctiva between the lids.

Mydriasis is often present, but in some cases the opposite condition of the pupil, myosis, is seen. In some cases, too, there may be anaesthesia and sloughing of the cornea.

But by far the most interesting and important feature of the disease is the effect it may produce upon vision; this may amount to amblyopia or amaurosis. Leaving out of the question some of the modes by which sight may be lost—such as sloughing of the cornea, an extension of the purulent process to the eye, producing panophthalmitis, and so on—I simply desire to make some few remarks upon the affection of sight caused by pressure on the optic nerve and blood-vessels which supply the eye in the orbit, especially as by Dr. Knapp's courtesy I can present a very remarkable and unusual case, and show the ophthalmoscopic drawings. It is generally assumed that the loss of vision is due to inflammation of the optic nerve, with subsequent atrophy, or to atrophy without inflammation, caused by pressure on the intra-orbital portion of the nerve. There is, however, a lack of observation based upon the examination during the first stage of the affection, which makes his case of great interest and value. It would seem that, while opacity of the retina, such as occurs in embolism of the central retinal artery, has been observed, the reason which has been assigned for the consecutive blindness in most cases of orbital phlegmon is atrophy of the nerve as a sequence of neuritis. This view seems not to be borne out by direct observation. From Dr. Knapp's observation it would seem more rational to assume that not only the atrophy of the nerve, which is seen as the final ophthalmoscopic picture, but even phthisis of the globe and sloughing of the cornea may be due to thrombosis of veins and compression of the retinal artery. On account of the importance of this view, I may be allowed to give a brief abstract of Dr. Knapp's case* before showing the drawings:

A patient, forty years old, who had syphilis, had an attack of erysipelas which began in the nose and extended to the pharynx, cheeks, and orbits; thence reached the forehead, both ears, and both sides of the neck. Five days after, when the general symptoms abated and the pulse and temperature were normal, the lids remaining swollen, chemosis and exophthalmus appeared. Two days later the sight of the right, and three days later that of the left eye was impaired, and the next day he was quite blind. It was then that Dr. Knapp first saw the patient. Both eyes showed the usual symptoms of cellulitis, which have already been enumerated. Incisions had been made in the orbits. The pupils were wide and immovable. The right cornea had a superficial ulcer, but the media admitted a clear view of the fundus. The drawings, executed in chromo-lithography,* which I shall pass round, show the appearances which are thus described and interpreted by Dr. Knapp. The retina was milky white, pervaded by numerous dark, almost black, tortuous, surcharged blood-vessels, which, tapering, converged to a common center, and had upon and between them many irregular, dark hemorrhages. The character of all the vessels was the same; they appeared as large veins. The picture resembled that seen after resection of the optic nerve, and Dr. Knapp gave his opinion that the ocular affection was thrombosis of the retinal veins, and complete obstruction of the central retinal artery by compression from the swollen and indurated cellular tissue of the orbit. Two days later, the milky appearance of the retina was less, vessels and the hemorrhages were the same; the whole disc was non-recognizable. Two days later, the disc was well defined, homogeneous, pervaded by two tortuous, thin vessels—the superior and inferior branches of the central arteries. In the next three succeeding ophthalmoscopic examinations the disc-margin became better defined; some portions of both the arteries and veins were interrupted by white lines; the veins were less dark; the discs quite white. Three weeks and three days after the first examination, the condition of the left eye was: disc white; arteries and veins clearly seen; arteries in some places bordered by white seams [opacity of vascular walls by defective nutrition, and, like the veins, in some places interrupted by snow-white lines [white thrombi]]. The veins in some places appear nodular, but there is no movement of the contents of the vessels, either spontaneously or by pressure on the eye. Hemorrhages still numerous.

The final examination, nearly two months after the accident: In region of yellow spot, a network of anastomosing white lines; retinal tissue semi-transparent, with white patches, especially in region of yellow spot. The two inferior vessels (inverted image), one artery and one vein, red. The patient remained blind in both eyes.

In this case it seems quite clear that there was, as pointed out by the author, compression of the central artery and subsequent thrombosis of the veins, both of which were observed by Dr. Knapp with the ophthalmoscope, and from beginning to end no neuro-retinitis, but, as beautifully shown in his drawings, the successive stages of thrombosis.

Several years ago I made an observation of a somewhat similar character, although far from being so complete. In the case of a man who was shot in the temple, immediately following the injury there was enormous protrusion of the eye, with complete loss of sight. I saw him a few minutes after, and made an ophthalmoscopic examination.

* Will be published by Dr. Knapp, in connection with a detailed description of the case, in Vol. XII, No. 1, of the "Archives of Ophthalmology."

* Reported at the meeting of the Am. Ophth. Society, July, 1883.

The whole retina was milky white, and I could nowhere detect any arteries, but the veins were full of dark blood and tortuous. There were no hemorrhages.

The next morning the cornea was already so hazy that I could no longer make an ophthalmoscopic examination; it soon sloughed. Panophthalmitis and phthisis bulbi resulted. This eye was probably lost by the extravasated blood, which filled the orbit, acting in the same way as the hardened cellular tissue does in cellulitis, compressing the artery and causing thrombosis of the veins.

The diagnosis of acute cellulitis of the orbit from other affections is not difficult, and yet there seems to be a good deal of confusion existing in the text-books on this point. The important affections for which it may be mistaken are:

1. *Suppurative Irido-choroiditis*.—In this affection the eye is first affected, and then protrusion ensues only when the inflammation has reached its height. The symptoms are referable to the eye rather than to its surroundings, such as intense pain in the globe, clouding of the media, and change in the iris, so that it is hardly possible to make an error in the diagnosis. It should be borne in mind, however, that this condition may ensue in the course of the orbital affection after perforation of the cornea has taken place.

2. *Inflammation of the Lachrymal Gland* may bear some resemblance to orbital phlegmon, but, if the former condition be present, the eye will be displaced downward and inward, and a tumor will be felt in the upper outer part of the orbit, which will be painful to the touch.

3. *Inflammation of Tenon's capsule* may bear a striking resemblance to orbital phlegmon, as the symptoms under which it begins are much the same—protrusion, and obstruction in the movements, of the globe, chemosis, and diminution of vision. The important point to remember in the differential diagnosis is that swelling of the lids occurs later, or not at all, in the course of this disease. It is far more difficult, when both of these affections coexist, to distinguish which was the primary affection. In inflammation of Tenon's capsule the formation of the abscess is in the cellular tissue, between the fibrous capsule and the globe. The loss of sight in these cases comes not from compression of the nerve or blood-vessels in the orbit, but mostly from the pressure directly exerted upon the eyeball itself. The blindness also comes, without exophthalmus, by gangrenous perforation of the sclera either in its anterior or posterior part. The pus from an abscess of Tenon's capsule, moreover, is not, like that which comes from the depth of the orbit, mixed with flakes of cellular tissue, but consists of a clearer fluid, such as would emanate from a preformed abscess, sac, or cavity.

4. It may be difficult to distinguish primary inflammation of the cellular tissue from *periostitis* and *caries of the orbit*, but in the latter affection the swelling will be more marked in the upper or lower margin of the orbit, which will be at the same time exquisitely sensitive to pressure, whereas this localized sensitiveness is not characteristic of orbital cellular inflammation. If the periostitis is in the posterior part of the orbit, the differential diagnosis may be difficult or impossible. If the pain is more severe when the globe is pressed against the walls of the orbit than when

pressure is exerted from before directly backward against the cushion of orbital cellular tissue which lies behind the eyeball, the inference is in favor of a periostitis.

Treatment.—The application of leeches, the use of cathartics, mercury, and so forth, as formerly practiced, are worse than useless, and, so far from having a favorable effect, can only aggravate the disease by weakening the patient.

The application of cold, too, even in the formative stage of the disease, is not likely to abort it, but its continued use may produce gangrene of the tissue. Warm applications constantly applied are of the greatest value, and, in both of the cases I have reported, were followed by immediate amelioration of all unfavorable symptoms. So soon as the swelling of the lids and the exophthalmus begin to subside, the cure will be hastened by the application of a pressure-bandage firmly applied. The necessity for surgical interference must be judged of by the gravity of the case. An incision, or, as some recommend, a simple puncture, or several punctures, may be made before fluctuation can be felt. There can be no doubt of the propriety of an early incision if the exophthalmus is of high grade, the eyeball immovable, the lids very much swollen, and sight threatened; but, in the majority of cases, it will be safe to wait until fluctuation can be felt, in the hope that resolution will ensue and the necessity for surgical interference be avoided. In the event of an incision being determined upon, it should be made, unless fluctuation be present in some place, in the most dependent part of the orbit. It seems to me to be of very little moment whether it be made under antiseptic precautions or not; nor do I think it important that a drainage-tube be used unless caries of the orbit be present; it will be better to let the wound close as soon as the pus is evacuated or the tension relieved; and, if there be caries of the walls of the orbit, the wound will remain open of itself. All that is necessary is to keep the tract of the wound carefully cleansed with an antiseptic solution. The incision into the orbit may be made through the conjunctival sac or through the lid. If care be taken to make the incision parallel with the course of the fibers of the orbicularis, it is just as well to make it through the integument, which admits of more ready access to the wound, for the purpose of drainage and cleansing.

THE PREVENTION OF PUERPERAL INFECTION.

By HENRY J. GARRIGUES, A. M., M. D.,

VISITING OBSTETRIC SURGEON TO THE NEW YORK MATERNITY HOSPITAL.

THE "Medical Record," in an editorial of January 5th, commenting on my paper on "The Prevention of Puerperal Infection," read before the Medical Society of the County of New York,* says: "To the unbiased mind it is clear as day that Dr. Garrigue's [read Garrigues's] remarkable success is due to non-interference with the traumatic utero-vaginal tract after completion of labor, rather than to the aseptic napkin."

* "Medical Record," December 29, 1883; also an abstract in this journal of the same date.

Dr. Simon Baruch says, in No. 7 of the same journal, patching one part of my paper together with another: I "quote Dr. Garrigues's experience as evidence of the inutility of these injections" (i. e., vaginal injections after normal labor). A little farther on he says: "The experience of Dr. Garrigues may also be cited in support of the view that injections after labor are dangerous, producing or keeping up fever processes. Despite his most active antiseptic prophylaxis, this careful observer was forced to admit that a large and very serious percentage of puerperal fever processes continued, and that the mortality rate was still unsatisfactory. But, so soon as he adopted the course of abstaining from the only injurious element of his prophylactic method, 'the vaginal injection twice daily,' a complete change occurred." Finally, he says that "few judicial and discriminating obstetricians will fail to accept the marked success more as an evidence of the [harmfulness of the injections in the first series of cases than as a demonstration of the value of the pad [i. e., my dressing impregnated with bichloride of mercury] in the second series."

Although these writers have a perfect right to think they understand much better than I a series of observations which I have taken the greatest possible interest in making during several years, and in spite of my doubtful judgment, discrimination, and freedom from bias, I hope it will be conceded on all sides that as to *facts* relating to my own practice nobody can be better informed than myself. Now, I am sorry I have to say that all these conclusions, from my experience in regard to the inutility and danger of prophylactic vaginal injections after normal labor and of the value of non-interference with the utero-vaginal tract, are unwarranted, since *neither during the first nor during the second of the periods which form the basis of my paper did I use vaginal injections after normal labor in Maternity Hospital*. My object in writing the said paper being only to show the value of the bichloride of mercury and of my way of using it, I did not enter on the discussion of the injections, although I stated plainly that I regarded it as one of the advantages of the treatment described that, "by the effective antiseptic treatment at the entrance, preventive injections become superfluous, and thus one great source of infection is avoided."

Having been well pleased for years with the vaginal injections of one- to two-per-cent. carbolic-acid solutions morning and evening as routine treatment, I used them likewise in Maternity Hospital when I was appointed visiting obstetric surgeon there in 1881. During my first service of six months there reigned a moderate morbidity and mortality, but still, not satisfied with the general condition of the patients, when I went on duty again, on October 1, 1882, I wanted to try if perhaps the vaginal injections, administered by nurses who often came directly from the wards of Charity Hospital, did more harm than good. I therefore abolished them, and they were not used during the following six months. At that time the preventive measures consisted only in dusting the outside of the external parts with a mixture of salicylic acid, one part, and starch, four parts, and inserting a pad of oakum between the thighs. *In spite of this system of non-interference, the morbidity and mortality increased very much.*

The hue and cry recently raised against vaginal injections exaggerates, in my opinion, very much the dangers of this mode of treatment. For ten or fifteen years they have been used by the most advanced obstetricians. They came in as part of the antiseptic treatment, by which the results obtained in lying-in institutions have been entirely changed all over the world. Since its introduction, so-called epidemics as they used to occur, in which sometimes for months one out of three puerperæ died, have become impossible; and, even without taking into consideration these exceptional periods, the mortality from puerperal fever was in good institutions brought down from five to one or two per cent.

It ought to be distinctly understood that *antiseptic vaginal injections are by far preferable to the abstention from all antiseptic treatment*. But it is in the nature of things that we constantly try to do better, and, if we can find an antiseptic treatment that allows of safely dispensing with the vaginal injections, it is to be preferred. Vaginal injections present, namely, several drawbacks. They necessitate the use of a particular apparatus, which increases the expense of the lying-in period, and thus become more difficult to obtain for the poorer patients. They necessitate, furthermore, the frequent contact of the fingers of the nurse and of the nozzle of the syringe with the genital tract of the puerperal woman, and the admission of the surrounding air into this canal, by all of which she is exposed to inoculation of septic material. Even the simple mechanical disturbance of the wounds constantly found in the genitals after delivery may retard their healing. Finally, some degree of nicety in manipulation, and, consequently, a comparatively developed intellect, are required of the person intrusted with the administration of vaginal injections.

All these objections apply only to injections after delivery. Those before delivery may be and ought to be given by the accoucheur himself, and, if no syringe is found in the house, he may use his own. I always carry one for that purpose in my satchel. *A thorough cleansing and disinfection of the vagina before delivery forms a link of absolute necessity in antiseptic midwifery*, for that alone prevents the introduction of material into the remoter and much-better-protected uterine cavity from the vagina and vulva, which form a kind of open avenue accessible to the outer air, bathed with urine and coming in contact with different foreign bodies.

It has been said that the disinfecting fluid does not come in contact with the whole vagina on account of its folds. I think this is a mistake. When we give a vaginal injection it is easy to see that we inject a considerable amount of fluid before any of it returns. The first effect of the injected fluid is to distend the vagina and smooth out its folds, and thereby the fluid is really brought into contact with the whole surface of the vaginal wall.

Another objection that is made is that the carbolic-acid solution in the strength commonly used does not kill the bacteria; but much may be said against this argument. Thus, we know there are bacteria and bacteria, and only some particularly tough ones resist a five-per-cent. solution. Perhaps the two-per-cent. solution is all that is needed for

those which are found in the vagina. Then, there is no doubt that the number of bacteria has some influence. The organism may be able to overcome a certain unknown number of them, and not a larger one, and, consequently, the mere mechanical removal of bacteria, if they be the offenders, may be useful. But, since now we give up carbolic acid and substitute a real germicide, bichloride of mercury, this objection can at best be applicable to the antiseptic treatment of the past. In all that refers to antiseptic surgery and obstetrics, we must remember that the correctness of the theory has by no means been proved. We can only go by the wonderful results, and are only warranted in the conclusion that by our treatment we exclude some kind of dangerous element the nature of which is not yet known. But, whatever it may be, the practical man will give his patients the advantage of a treatment which in practice has proved greatly to increase their chances of a speedy recovery.

Besides vaginal injections, I have used and continue using prophylactic *intra-uterine* injections in every case in which it has been necessary to introduce fingers, the whole hand, or instruments into the uterine cavity. The theoretical reason for this is that, even when the vagina, the hand, and the instruments are disinfected, it is impossible to avoid introducing air into the utero-vaginal canal, and, as this air may carry poisonous elements, the parts must be disinfected. Formerly I used for this purpose a five-per-cent. solution of carbolic acid; now I employ the 1-to-2,000 bichloride-of-mercury solution. I likewise use this prophylactic *intra-uterine* injection when the *fœtus* has been dead for some time.

Although it is outside of the scope of these remarks, I will only briefly add that, as a curative remedy, I have seen excellent results of *intra-uterine* injections, and I use vaginal injections three times a day or oftener if the lochial discharge has any *fœtor*; but since I have been using my new dressing this has become quite rare.

I showed in the beginning that my recent success in Maternity Hospital had nothing to do with the use or non-use of vaginal injections. I attribute it myself chiefly to the use of the bichloride of mercury and to the careful application of the bandage, and I do not think I can be much mistaken in this respect, since these are the two chief points in the new treatment. The bichloride of mercury has been experimentally proved to be a true germicide even in a much more dilute solution than the one we use.

I have never been able to trace the infection of the patients to doctors or nurses, but everything pointed to a poison in the air in the wards, which was somewhat subdued, but not exterminated, by sulphurous acid. I conclude this from the fact that when a new ward was used, in which there had not been any puerperal patients for years, all went well there for a long time, and that even in the other wards, as often as they had been fumigated, the temperatures of the patients were normal for about a week, when fever reappeared.

The form of puerperal fever we had especially to deal with was diphtheritic inflammation, and the places in the genital tract in which it almost invariably began—namely,

on the labia or at the vaginal orifice—pointed decidedly toward an infection coming from without. The indication was, therefore, to find a better antiseptic than carbolic or salicylic acid, and to apply it in such a way as to exclude the air from the genital canal, or at least only to admit it through a disinfecting filter. I decided to try bichloride of mercury, and applied it in the way described in the paper read before the county society. This method has proved as safe and sure as it is simple. It has now been used in one hundred and seventy-five confinements in Maternity Hospital, and in the same wards where we used to have constant trouble everything goes smoothly. Every trace of infection has disappeared, and there has been remarkably little disease of any kind. In some cases of inflammation of the womb and its surroundings we have even observed the interesting phenomenon of an inflammation running its course without any rise in temperature.

I use the same treatment in private practice, with rich and poor, and it gives the same satisfaction. Ladies who have had children before find the dressing very pleasant, and delight in the absence of odor, not only of carbolic acid, but of the lochial discharge.

Having been asked by several practitioners how I arrange the details in private practice, I will give the particulars here. I carry powders of 15 grains of corrosive sublimate in my satchel, in order to be sure to have them on hand. After confinement I prescribe powders with $7\frac{1}{2}$ grains. I dissolve the 15 grains in a quart of hot water, stirring with a wooden spoon. This forms a solution of about 1 to 1,000, which, according to circumstances, is mixed with an equal amount of hot or cold water, thus forming a solution of 1 to 2,000, which is the strength used for all purposes. I dispense with the disinfection of the abdomen, thighs, and buttocks, deemed necessary in the hospital, but inject invariably a quart into the vagina, placing the patient on a bed-pan. If the latter utensil were not obtainable, it might easily be replaced by some contrivance which will present itself to the mind of the practitioner. In tedious cases I repeat this injection according to circumstances, at least once in three hours, in which case it serves both as a disinfectant for the vagina and as a stimulant for the uterus. When the presenting part appears, I apply to the vulva a piece of lint dipped in the solution, except, of course, in precipitate labor. After the birth of the child and the removal of the after-birth I wash the patient with the solution; apply a binder; cover the genitals and anus with a piece of lint, wrung out of the solution, eight inches long, and folded so as to form four layers three inches wide, which is exactly the width of the space between the genito-femoral sulci in most women; place outside of the lint a piece of oiled-silk which is an inch longer and broader; put a large pad of carbolized cotton on top of the oiled-silk, and fasten the whole tightly to the binder. For the binder and this piece between the legs I prefer Canton flannel, but any clean muslin or linen will do. The principle in this bandage is to have an absorbent wrung out of the solution of bichloride of mercury in immediate contact with the genitals, a water-proof substance outside, in order to prevent the bichloride from being absorbed by the

external parts of the dressing, and a dry and soft absorbent outside the waterproof material, in order to take up the discharge which exceptionally escapes from the inner compress, to form a first filter for the air, and to keep the inner compress in contact with the skin. Where strict economy is necessary, the lint may be replaced by muslin or cotton batting, the oiled-silk by gutta-percha tissue, and the carbolized cotton by common cotton or any clean rags. If the perineum has been torn, it is stitched up before applying the bandage, but all other wounds are left entirely to themselves under the protection of the dressing. Three times a day the outside of the genitals and surrounding parts are washed with the solution, and the dressing is renewed. For this purpose the person in charge of the patient dissolves one of the $7\frac{1}{2}$ -grain powders in a quart of warm water. No trained nurse is required, the procedure being so simple that the husband or any female friend can perform it.

The simplicity of this treatment is apparent; its safety for patients, nurses, and doctors is demonstrated by the total absence of any kind of untoward accidents during the five months it has been in use; and its efficacy is proved by the radical change in the condition of the patients in a hospital that abounds in unfavorable hygienic features, and in which disease used to be permanent and death frequent.

137 WEST TWENTY-SECOND STREET.

A CASE OF RUPTURE OF THE UTERUS.

By SAMUEL D. GILBERT, M. D.,
NEW HAVEN, CONN.

At three o'clock A. M., December 2, 1883, I was called to attend Mrs. C., a native of Ireland, aged thirty-four, in her fifth confinement. I attended her in her fourth confinement November 6, 1881, which, like all the previous ones, was natural in every respect. She was a strong, healthy woman, and had four children living.

On examination *per vaginam*, I found the os uteri of about the size of a dime, not rigid. Diagnosed a breech presentation, which proved to be correct. The vagina and genital parts were cool and moist.

On examination of the abdomen externally, I found the head lying toward the left side, and I was struck with the fact that it seemed just under the skin, so thin were the uterine walls. Remained an hour, when, as the pains were slight and infrequent and the patient was in good condition, I left. Saw her again at 8 A. M., but, as there was no change, left directions that I was immediately to be summoned in case "good labor pains" began, and went about my day's work. Was called at 10.30 P. M. the same day, and reached the house, about three miles distant, at 11.30. Found the os uteri nearly fully dilated, but the pains infrequent. As the woman was tired and nervous, I thought best to deliver. I ruptured the membranes and waited fifteen minutes, when, as there was no decided uterine action, I proceeded to deliver, having given chloroform, not to the extent of full anesthesia, but a quantity sufficient to prevent the patient suffering much pain. I had great difficulty in the delivery, as the child was large and the parts were tense. It was fully half an hour before the lower extremities and the body and arms were born. When I had brought down the last arm the os contracted around the neck of the child with the grasp of a vise. After fifteen minutes the head was extracted, and, though I was as gentle as I could be, considering the force necessarily used, when the head emerged from the os there was a distinct and sharp tearing sound, and the patient instantly collapsed.

The child, a female, was dead, and exhibited on the left parietal bone a depression, circular, and one inch and a half in diameter, with sharp edges. This was evidently a malformation, and not in any way occasioned by any deformity of the pelvic bones, which I am quite sure did not exist. I immediately gave my attention to the woman. Placing my left hand on the fundus, which contracted promptly, I found, on following up the funis with my right hand, that it did not lead into the uterus, but through a rent which extended through the cervix and perhaps into the body of the uterus slightly. (I had no time to make a very careful examination of the rent, as the woman was in collapse and apparently about to die.) I promptly passed my hand through the rent, following the funis into the cavity of the abdomen, and fortunately found the placenta without much difficulty and removed it. The patient's whole condition was bad, the pulse exceedingly weak and thready; a large amount of blood was lost.

I at once resorted to stimulants and ergot, surrounded her with hot flat-irons, and, after half an hour, there was a fair reaction—much to my satisfaction. I then remained two hours, when, as reaction was well established, I went home. I visited the patient on the morning of the 3d, about 10 A. M., and found her much more comfortable than I anticipated. The pulse was of fair volume and strength; the temperature about 100° F.

The abdomen was very tympanitic and exceedingly tender on pressure. Urine had been passed. Ordered sulphate of morphine, gr. $\frac{1}{4}$, to be given every two hours, unless the patient slept or was entirely free from pain. (The morphine was administered in full doses for eleven days, or until convalescence was well established.) Hot turpentine stupes were applied to the abdomen. When I made my first visit, December 4th, I found the lochia were quite offensive, and ordered the injection well up into the vagina of a gallon of warm water with 2½-per-cent. solution of carbolic acid. This was repeated twice daily, as long as there was any discharge, during a period of three weeks. From this time the patient did well, though, of course, the condition was a grave one. There were great tympanites and tenderness for several days, and an offensive discharge containing pus in considerable quantities, but all the bad symptoms gradually diminished.

The temperature never went above 104°, and only on one occasion over 103°. In a fortnight convalescence was well established, and in a month the woman was up and about the house doing her housework in a great measure. This was contrary to my wish, but she felt the necessity, as she was poor. She is at the present time, February 1st, quite well.

This differs from the majority of cases of rupture of the uterus reported, in the time and manner of its occurrence, and also in the result.

I attribute the recovery of the patient, firstly, to her good constitution; secondly, to the full doses of morphine used continuously; and, lastly, to the thorough washing of the genital tract with an antiseptic solution. I did think at one time of injecting the solution through a glass drainage-tube directly into the cavity of the abdomen, but, as I could not well do it myself twice daily, and the patient had to depend on a poor nurse, I had her use the vaginal injection. The result shows that it was sufficient.

"DEATH FROM MISADVENTURE," according to the "Lancet," was the verdict at a recent inquest, in London, on the body of a man whose death was shown by the medical evidence to have been caused by chloral, which he had been accustomed to take to induce sleep. There seemed to have been no motive for suicide, and it was presumed that he accidentally took an overdose of the drug.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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Edited by
FRANK P. FOSTER, M. D.

NEW YORK SATURDAY, MARCH 1, 1884.

THE SUPPLY OF ANATOMICAL MATERIAL.

WHILE it is undoubtedly true that no intelligent and well-informed person can question the duty of the law-making power in the several States to provide for the reasonable needs of the medical colleges in the matter of material for dissection and demonstration—while, in fact, the simple proposition has come to be recognized by such persons that the State can not justly hold practitioners of medicine as bound to possess an amount of anatomical knowledge sufficient to enable them to practice their profession with the best attainable degree of safety to the community, in so far as that sort of knowledge forms an element of safety in the practice of medicine, unless at the same time it provides the means of acquiring it—it is equally true that intelligent and well-informed people are not the only ones whose approval has to be secured before a legislative enactment that seems to run counter to the instincts of humanity can be procured.

It is on this account, doubtless, that several of the States are still backward in adopting the measures necessary to provide adequate means for the practical study of anatomy. In order to overcome the natural reluctance felt by legislators to passing laws they know to be abhorrent to a considerable proportion of their constituents, they must be convinced of the pressing need of such laws, and that the necessity is one that affects not only the medical profession, but, however indirectly it may be, the whole people. Not only do we feel that this is the one line of argument which alone is of any force, but we doubt exceedingly if the cause is not weakened by an appeal to arguments of any other sort.

Certainly this must be true of those attempts at persuasion, smacking of coercion, that are too often brought into play by medical writers, partly, we must suppose, under the actual conviction that they will have an effect in furthering the legislation sought for, but also (and it is this aspect which is apt to strike the general public) in palliation of the detestable crime of violation of the sepulchre. At best, the plea amounts to no more than this: Give us what we want, and we will no longer steal it; feed us, and we will refrain from playing the jackal! Of course, the medical profession takes no such ground as this; it entertains no such feeling; it realizes the criminality of grave-robbing, and properly detests the practice. Unfortunately, however, the great majority of the community of the country have no means of knowing the sentiments held in regard to such matters by the profession as a whole, and may be pardoned for judging of them by what is set forth by the self-constituted spokesmen to whom we allude.

It is indisputable that proper anatomy laws will do away

with the resurrectionist's wretched business, but that is not the ground on which we can reasonably, or even decently, ask for their enactment; and the community should understand that it is not the ground on which we do ask for it. Common morality forbids our taking any such position, but, quite apart from that consideration, the medical profession is too well informed to suppose for a moment that it can coerce the State by any course of the sort.

NEWSPAPER MEDICINE.

How it is that the details of marvelous surgical exploits so often find their way into the columns of the secular press is one of the standing puzzles of the century. It is well known that the fame thus easily achieved is disdained by the surgeons concerned, who, indeed, to say nothing of that consideration, would scorn to violate the code of ethics of the American Medical Association even where renown was to be reached only *per aspera*. Taking this view of the matter, apparently, the profession has never held them to any close accountability for not preventing this thrusting of greatness upon them. We must take it for granted, too, that most general practitioners, however much they may have chafed in the beginning at the monopoly of this sort of glory enjoyed by the surgeons, have gradually come to regard it as inevitable and as one of the natural prerogatives of a surgical career. The matter may assume a different aspect, however, if the newspapers take up obstetrics, and there are some indications that they are looking wistfully upon that branch of our art.

A recent Sunday issue of the "New Haven Register" treats its readers to almost a column and a half descriptive of the details of a Cæsarean operation, and it is only a few months since a Philadelphia newspaper gave about as full an account of a Porro-Müller operation. In both instances the names of the operators, as well as those of their assistants and the consultants, are given most impartially, coupled with glowing tributes to their skill and learning. In the New Haven case, it seems that the Cæsarean operation was lately repeated, with a fatal result, on a negress who had survived a like operation done more than fifteen years ago, at which time, as it was quite necessary for the "Register" to inform its readers, she was "an unmarried girl in her sixteenth year." The recent operation, which proved fatal, is dismissed with a short paragraph, but the minutest steps in the successful procedure of fifteen years ago are set forth without stint. The operation is characterized as a "brilliant performance," and the operator is thus enologized: "A few years ago the position of professor of surgery at Yale was offered him, but he felt obliged to decline. Had he accepted, the college would have resumed its time-honored reputation for the foremost surgical instruction." These preliminary flourishes are followed by a complete account of the case, taken from one of our contemporaries.

We wonder if the good people of New Haven relish this sort of Sunday reading, and we wonder still more how the medical faculty of Yale College like the broad insinuation that, because a certain person once declined the professorship of

surgery in their institution, the instruction now given there in surgery is not what it might have been.

THE PENSION INDUSTRY.

HONORABLE as the profession of medicine unquestionably is, its members can not all be said to be immaculate. We believe we are perfectly justified, however, in maintaining that for morality, fidelity to duty, and the general attributes of good citizenship, medical men are excelled by members of few if any of the other callings that expose their followers to like temptations. This, we think, is admitted by the community. If this enviable reputation is to be kept up, we must look to it that offenses are rebuked whenever they crop out, instead of being condoned or even ignored. In conformity with this manifest duty, we would ask if it is not getting to be rather too common to read in the newspapers of frauds upon the Pension Bureau perpetrated with the connivance of medical men. How many of these stories are true, and how many of them are founded on error if not on malice, it is impossible to say. Let us hope that the great majority of them belong in the latter catalogue. But, whatever the probability may be as to this point, the public can scarcely be expected to go on indefinitely giving us the benefit of the doubt. In many instances the reports are undoubtedly founded on fact, and it must be remembered that it is in great part only those in which there is a suspicion of fraud having been committed in the physician's own interest that are likely to find their way into the newspapers. How many more there are in which physicians aid in cheating the Government out of sheer failure to comprehend the fact that a baseless claim is not to be furthered, however interesting or unfortunate or in other respects deserving the claimant may be, without doing a wrong to all of our fellow-citizens—how many more cases there are of this sort, we say, it would be useless to try to estimate.

To evade the payment of taxes, or in some like manner to profit by withholding what one should contribute to the general funds, is too apt to be held venial; and still more readily are conscientious scruples smothered when it is not for our own profit, but to aid some poor sufferer, that we go beyond what the facts warrant in enabling a person to get a pension. All this is manifestly wrong, whatever plausibility there may be about such considerations as that the Government has a surplus revenue which might better be given somewhat recklessly to those who have suffered in its defense than squandered in schemes of so-called improvement of rivers and harbors and the like. Such a question is for the Government alone to settle; the medical examiner has nothing at all to do with it. The only inquiries with which the latter should concern himself are as to whether the alleged disability is a real one, and whether it was incurred in the line of duty.

MINOR PARAGRAPHS.

PRESCRIBING APOTHECARIES IN CANADA.

THE particular form of encroachment on the legitimate practice of medicine known as counter-prescribing is an old griev-

ance in this country, and one that we are scarcely likely to see the last of very soon, no matter what laws may be passed, or to whatever retaliatory measures we may resort. It is somewhat reassuring to find, however, that we are not quite so much ridden over in this way as our Canadian neighbors are, judging from an article in a recent number of the "*Union médicale du Canada*." It seems that one Montreal apothecary does so thriving a business in tooth-drawing, prescribing for gonorrhœa, opening abscesses, and the like, that he finds it necessary to employ a collector to gather in his *honoraria*. And yet the Canadian Medical Practice Act is most stringent. It may be questioned if either legal enactments or retaliation will ever suffice to eradicate the practice in question; our hope lies rather in the direction of an improved sentiment among the pharmacists themselves, the better portion of whom can not fail to see the lowering tendency of counter-prescribing.

SICKNESS IN THE JURY-ROOM.

SOME weeks ago we recorded an incident that was said to have happened in Philadelphia, the point of which was that a judge was made angry by the fact of a physician having been introduced into the jury-room on account of the illness of a juror. According to the "*Boston Medical and Surgical Journal*," a like incident lately took place in Massachusetts, and, on the strength of it, the defeated party in the action appealed to the Supreme Court. A small quantity of brandy was administered to the sick juror, but there was nothing to show, either that the spirit had in the least incapacitated him from doing his duty as a juror, or that the physician had entered into conversation with any of the jurors in a way calculated to prejudice the administration of justice. The appellate court held, therefore, that a new trial need not necessarily be granted.

A JOURNAL OF ORTHOPEDICS.

WE have received the first number of a most promising Italian journal of orthopedics, the "*Archivio di Ortopedia*," edited by Dr. P. Panzeri and Dr. F. Margary, and published in Milan. The number contains the following original communications: On the Operative Treatment of Inveterate Congenital Varus, by Dr. Margary; Mechanical Jackets in the Treatment of Scoliosis, by Dr. Secchi; Two Rare Deformities of the Leg corrected by Osteotomy, by Dr. Panzeri; A Case of Subtrochanteric Osteotomy for the Correction of a Grave Deformity from Coxalgia, by Dr. Novaro; and A Clinico-statistical History of the Cases of Genu Valgum treated by Operation at the Bambino Gesù and the Fate-Bene-Fratelli Hospitals in Rome, by Dr. Ceccarelli. Besides, we find a great variety of abstracts and a review of Vogt's "*Modern Orthopedics*."

SAUCE FOR THE GANDER.

NOW that a bill has been introduced into the British Parliament prohibiting the importation of cattle from any other country than Canada, it is amusing to observe the readiness with which the Germans accuse the British of aiming at the protection of their trade interests rather than the health of their own cattle. In view of the exception in favor of Canada, it is interesting also to note that a lot of diseased cattle lately landed at Liverpool, from a vessel that arrived from Portland, Me., came from Canada.

THE LATE DR. AMBLER OF THE NAVY.—The remains of the late Passed Assistant Surgeon James M. Ambler were taken from New York to his home in Virginia last Saturday, with an escort representing the medical and other corps of the navy. At Baltimore the party was joined by representatives of the

Medico-Chirurgical Faculty of the State of Maryland, of the faculty of the University of Maryland, and of the Clinical Society of Baltimore. The funeral train was received along the route with demonstrations becoming the occasion of the last rites paid to an officer who lost his life under circumstances calling for peculiar tenderness on the part of his countrymen. Medical Director J. M. Brown, Medical Director Albert L. Gihon, Surgeon W. K. Van Reyser, Surgeon C. M. H. White, Chief Engineer Melville, and Lieutenant Danephower were the pall-bearers.

NEWS ITEMS.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 26, 1884:

DISEASES.	Week ending Feb. 19.		Week ending Feb. 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	0
Typhoid Fever	21	6	11	5
Scarlet Fever	75	14	64	11
Cerebro-spinal meningitis	6	5	5	5
Measles	70	11	39	3
Diphtheria	47	20	44	23

THE UNIVERSITY OF VIENNA.—Dr. Widerhofer has been nominated ordinary professor of paediatrics, having been recommended, it is said, by Banberger, Nothnagel, and Braun von Fernwald.

THE PARIS FACULTY OF MEDICINE.—M. Tarnier, heretofore an agrégé, succeeds the late Professor Depaul as professor of obstetrics and diseases of women and children.

THE INTERNATIONAL OTOLOGICAL CONGRESS will be held at Basle, September 1, 2, 3, and 4, 1884. The titles of communications intended to be made to the congress should be made known to Dr. Burchhardt-Mérion, of Basle, before the 15th of May.

THE MEDICAL SOCIETY OF THE COUNTY OF HUDSON, N. J., will hold its next meeting on Tuesday, March 4th, at 4 p. m., at Taylor's Hotel, Jersey City. Dr. Charles F. Stillman, of New York, will speak on the subject of "Backward Traction in Caries of the Spine."

"THE PROCEEDINGS OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS."—This monthly publication, it is announced, will be discontinued on the completion of its eighth volume. We trust that the proceedings of the society will be published in some form, for in the past they have been of great value.

THE NEW YORK SKIN AND CANCER HOSPITAL.—We learn that Dr. James B. Hunter has resigned his position on the staff of the hospital, and that a new hospital has been organized under the title of the New York Cancer Hospital.

THE GALLIGO PRIZE has been awarded by the Medico-Physical Society of Florence to Dr. A. Bianchi and Dr. C. Balocchi, for their memoir on "The Regressive Spinal Paralysis of Infancy."

THE ILLINOIS STATE BOARD OF HEALTH.—At the last annual meeting of the board, the officers were re-elected, as follows: The Hon. Newton Bateman, LL. D., president; John H. Rauch, M. D., secretary; A. L. Clark, M. D., treasurer. It was ordered that diplomas issued by the College of Physicians and Surgeons, of Joplin, Mo., and by the Kansas City Hospital Medical College, for the current session, 1883-'84, could not be received as the basis for certificates entitling to practice in Illinois.

ALLEGED "BURKING" IN OHIO.—According to a newspaper report, the bodies of three persons who had evidently died in consequence of violence were recently found in the dissecting-room of the Ohio Medical College, of Cincinnati, and the theory was entertained that murder had been committed for the sake of obtaining anatomical material.

THE SURGEON-GENERAL OF THE NAVY.—It is reported that the Secretary of the Navy has recommended Medical Director Francis M. Gunnell to the President for appointment as surgeon-general of the navy.

PROFESSOR FREEHOUS, according to the "Lancet," has had the grand cordon of St. Stanislaus conferred upon him by the Russian Government, in recognition of his services in connection with the education of Russian students at Breslau and Berlin.

ERRATA.—As circumstances rendered it impossible for Professor Wilder to see the proof of the first part of his second Cartwright Lecture, published in our last issue, the following typographical errors crept in, which the reader is requested to correct: For "mesen," wherever it occurs, read *meson* (the mesal or mesial plane or line). On page 206, in the paragraph numbered 2, after "concentration," for "and," read *of*. On the same page, seventh line of the paragraph headed "Lateral Hemisection of the Calva," for "1.3 cm.," read *1-3 cm.*. In the foot-note, on the last line of the same page, after "suggested," for "to," read *by*. On page 207, second column, sixth line from the bottom, the number "11" should not be italicized. On page 208, fifteenth line from the bottom of the first column, for "portacava," read *postcava* (vena cava ascendens). In the journal for February 16th, page 178, in the paragraph numbered 6, the word "mesen" should be *meson*. In the concluding portion of the second lecture, published in this issue of the journal, in the explanation of Fig. 44, for "dorso-central," read *dorso-ventral*. In the explanation of Fig. 45, for "calcareas," read *calcares*. On page 234, second column, twenty-third line from the top, for "carried," read *carred*. On page 235, first column, twenty-ninth line from the top, for "cord," read *cast*. On page 235, second column, ninth line from the top, for "fætuses of children," read *fætuses and children*.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 17, 1884, to February 23, 1884:*

PATZKI, JULIUS H., Captain and Assistant Surgeon. Leave of absence extended one year on surgeon's certificate of disability, with permission to go beyond sea. S. O. 43, Par. 9, A. G. O., February 20, 1884.

MADDOX, T. J. C., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Meyer's Springs, Texas. Per Post Orders No. 27, Par. 1, Fort Clark, Texas, February 13 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending February 23, 1884:*

NASH, F. S., Passed Assistant Surgeon. Detached from the U. S. S. Dispatch, and waiting orders.

RUSH, W. H., Passed Assistant Surgeon. Detached from the Minnesota, and ordered to duty on board the Dispatch.

HALL, J. H., Passed Assistant Surgeon. Ordered to the Minnesota.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, March 3d:* Medico-Chirurgical Society of German Physicians; Morristania Medical Society; Brooklyn Anatomical and Surgical Society (private); Utica (N. Y.) Medical Library Association.

Tuesday, March 4th: New York Obstetrical Society (private); New York Neurological Society; Elmira (N. Y.) Academy of Medicine; Buffalo Medical Association; Ogdensburg (N. Y.) Medical Association; Medical Society of the County of Hudson, N. J.

Wednesday, March 5th: New York Medico-Legal Society; Medical Society of the County of Richmond, N. Y.

Thursday, March 6th: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.

Friday, March 7th: Practitioners' Society (private).

Saturday, March 8th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

HENRY LYMAN SABIN, M. D., OF WILLIAMSTOWN, MASS.—Dr. Sabin died on Sunday, the 24th inst., in his eighty-third year. He was born in Williamstown, May 29, 1801, and received his early education in Lenox Academy and at Williams College, and was graduated from Berkshire Medical College in 1826. After practicing for a time in Chatham, N. Y., he settled in his native town, where he remained until his death. He was a member of the Massachusetts Medical Society, of which he was at one time Vice-President, a member of the Berkshire District Medical Society, an honorary member of the Medical Society of the State of New York, for many years a trustee of the Northampton Lunatic Asylum, and a member of the corporation of Williams College.

Letters to the Editor.

THE COLLEGE OF MIDWIFERY.

NEW YORK, February 22, 1884.

To the Editor of the New York Medical Journal:

SIR: I notice among the News Items a paragraph to the effect that two bills are now before the Legislature for the incorporation of the College of Midwifery of this city. The bill which was laid before the comitia had such objectionable clauses as to render it inadvisable to recommend it, and the other bill—well, the action of the board of the concern which favors it and the pamphlet which it issued render it unnecessary to say more than that the bill should be vigorously opposed. We commend both bills to the attention of the Committee on Legislation of the State Medical Society.

Very faithfully yours,

F. R. STURGIS.

WHAT IS A CONSULTATION?

PARISH, N. Y., February 11, 1884.

To the Editor of the New York Medical Journal:

SIR: Pertinent to the "code" controversy, that is settled every year at Albany and which persists in being unsettled, I would like to obtain some information upon certain questions relating to it.

1. What is a consultation?

2. What are the relations of the attending and consulting physicians to each other?

3. Is the calling of an expert for an opinion a consultation?

4. Where several physicians are called in case of an accident or emergency, is it a consultation?

Yours truly,

J. B. TODD.

FARADIZATION IN RINGWORM.

PRAIRIE DU CHIEN, WIS., February 4, 1884.

To the Editor of the New York Medical Journal:

SIR: A short time since I had a very obstinate case of ringworm on the forearm of a stout mechanic. I tried all the known remedies without success, and finally, more as an experiment than anything else, I applied the faradaic current—the handle of the positive pole at the end of the elbow, the flat electrode of the negative pole passed repeatedly over the seat of the disease. The itching, which was intense, ceased immediately, and a clear exudation, like minute drops of sweat, appeared on the surface. A second application, two days afterward, left nothing of the ringworm but desquamated skin. A mild, emollient ointment was applied between the applications of the battery.

Yours truly,

ALEX. F. SAMUELS.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of February 12, 1884.

Dr. CHARLES MCBURNEY, Vice-President, in the chair.

DISLOCATION OF THE COMMON CAROTID ARTERY.—Dr. F. LANGE presented a patient, a woman forty-seven years of age, who had been troubled with a disagreeable feeling in her throat for about nine months, which she described as a perpetual desire to swallow. She had been treated with internal remedies and external applications, and called at his office about a week ago, when he examined the throat and discovered, what could be readily seen on the posterior wall of the pharynx on the right side at the lower edge of the arcus pharyngo-palatinus, a roundish pulsating tumor. Closer examination showed that it was the common carotid artery, which was dislocated and could be traced by laryngoscopic examination as far down as the arytenoid cartilage.

There were also hypertrophy of the left ventricle, a decided thickening of the coats of the other carotid artery, which was abnormally superficial, and some albumin in the urine. The patient said that about nine years before she had an attack of acute nephritis. The question was, whether the trouble depended upon the anatomical abnormality, and had always existed, or only since the trouble in her throat had been manifested.

On the left side the soft parts were slightly prominent, and were sunk in on the right side. Dr. Lange thought the prominence on the left side was due to the superficial position of the common carotid artery. Moreover, the entire larynx seemed to him to be abnormally movable, especially so as on the right side one could pass the fingers behind the thyroid cartilage and pull the artery out, dislocate it laterally, and push the larynx well over to the opposite or left side. He thought it probable that it was the common carotid and the beginning of the internal carotid which were dislocated. The artery seemed so movable beneath the mucous membrane of the pharynx that, by some pressure from the right side, it could be pushed almost as far as the middle line, passing from there upward and to the right side in a curved line.

ARTHRITIS DEFORMANS OF THE KNEE; HYDRARTHROSIS; CORPUS MOBILE; ARTHROTHOMY.—Dr. LANGE also presented a patient with the following history: A man, fifty-eight years of age, had been troubled with his right knee for a good many years, and attributed it to a very curious cause. For more than fifteen

years he had suffered from a constant feeling of pressure in the region of the rectum, which obliged him to use the *pot de chambre* very frequently. At length he fell into the bad habit of yielding to this sensation so frequently that for the greater part of the day he was seated on a small pot, which he used to carry with him. The most thorough examination failed to reveal any material change about the rectum to account for this suffering, and Dr. Lange took it to be a symptom of marked hypochondriasis, which of late, by mere force of the will, had been decidedly improved. The patient thought that this constant low-sitting posture, with the consequent great flexion of the knees, and more especially the right one, had been a great strain upon the latter. After a time it became thickened and abnormally movable, although it did not prevent him from walking, unless he used it for a long time continuously. When Dr. Lange saw the man, last August, his right knee presented really a grotesque appearance. With one exception, it was the largest knee joint he had ever seen; in circumference it exceeded its fellow by 20 cm. This was due mostly to fluid within the capsule. The latter was much thickened, and so distended that its upper margin reached almost to the middle of the thigh. In the popliteal space there was a protuberance about as large as a medium-sized fist, surmounted by a smaller protuberance as large as a small apple, resistant and smooth, and situated above the external condyle. The leg was somewhat oedematous, and the subcutaneous veins were distended. Flexion and extension could be made almost to the natural degree. Besides, there was lateral mobility to such an extent that at each step the knee was very decidedly projected outward, and a pronounced genu varum set in. It was to be seen now that this abnormality was still present if the patient removed the apparatus.

Dr. Lange performed arthrotomy in September, making two long lateral incisions. A large amount of synovial fluid escaped, and such an enormous mass of soft fibrous layers that he did not think it could have amounted to less than a pint. They were mostly scraped out by means of a sharp spoon, leaving the synovial membrane thickened, smooth, velvet-like, and highly vascular. Together with these masses, a bony body escaped, of about the size of a large bean, rough on the surface—bony but covered by a very thin layer of cartilage, as was to be seen on section. The bony and cartilaginous structures of the joint presented the characteristic changes of arthritis deformans. There were depressions and elevations on the cartilages, and the edges of the bones were thickened and broadened by irregular pad-like protuberances. The swelling in the popliteal region was hardly affected by the incisions in front, and became only a little smaller. Dr. Lange would have incised that also, but, contrary to his expectation, the man had lost a great deal of blood, mostly from the highly vascularized and thickened synovial membrane, so that he was obliged to desist from further surgical interference for the time being. Drains were inserted, the wounds were closed with sutures, and the knee was immobilized, of course, over an antiseptic dressing. For the first few days the discharge of synovial fluid was so copious that the dressing had to be changed almost daily, but healing took place without any bad symptoms within about four weeks. The size of the knee had been reduced considerably—according to a measurement taken two months after the operation, by about 18 cm. At present it measured 42 cm., which was 12 cm. less than at the time of the operation. The swelling in the popliteal space was also decidedly smaller and softer, and, on motion, a soft crepitus was to be felt in it here and there, as if fibrous bodies escaped under the pressure of the finger. Thus far, the abnormal lateral mobility had not been improved. The patient was now wearing a very solid and strong splint reaching from the pelvis to the shoe, and at the same time counter-pressure

was exerted upon the outer side of the leg immediately below the knee, to counteract the tendency to outward subluxation of the tibia. It seemed as if there had been some loss of bony substance at the inner condyles, so that a wide gap was formed between them when the leg was forced into a straight position. Dr. Lange's idea was to maintain this position with the splint, thereby causing pressure of the external condyles against each other, and gradual loss of bony substance, until both surfaces could meet again to such an extent as to make the adaptation perfect. Perhaps complete ankylosis would be the most favorable result for the patient. There was neither any abnormality of sensibility or of function of the sphincters, which could warrant assuming a spinal origin of the affection.

ADDUCTION AND ABDUCTION IN FRACTURES OF THE NECK OF THE FEMUR.—Dr. W. S. HALSTED presented a patient with fracture of the neck of the femur with adduction, and a specimen of intra-capsular fracture of the neck of the femur from a case in which there had been adduction and a quarter of an inch shortening. He called attention to the necessity of making allowance for adduction and abduction in the estimation of the amount of shortening in these cases. From certain measurements made upon dead and living subjects, he had demonstrated that, as abducting the lower limb made it measure less along the line from the anterior superior spine of the ilium to either malleolus, so adducting it made it measure more along the same line; furthermore, that, one leg being adducted, the other must be adducted to be brought parallel with it. Hence, in a fracture of the neck of the femur with adduction, the injured limb might actually measure more than the sound one—*First*, because it was lengthened by adduction; *second*, because its fellow was shortened by abduction. In the case from which his specimen had been taken he had been able to make the diagnosis of fracture, because of the recognition of these facts. The injured limb was *apparently* shortened, but, by measurement from the anterior superior spine to the malleoli, was one eighth of an inch lengthened, although a quarter of an inch shortened along Bryant's line. The patient presented with fracture of the neck of the femur and abduction had limbs of apparently equal length. Along Bryant's line the injured limb measured three eighths of an inch, but from the anterior superior spine of the ilium to the malleolus externus an inch and a quarter, shorter than the sound one. Dr. Halsted remarked, further, that, in cases in which, measured on Bryant's line, there was equal shortening, the adducted limbs would render more of a limp necessary than the abducted ones. In consideration thereof, he believed it unwise to allow the limb to remain in an adducted position.

Dr. ALFRED C. POST remarked, with regard to the anatomical specimen, that it hardly seemed probable that such a degree of absorption could have taken place within two weeks unless there had been some before. The specimen itself would seem to indicate that several months must have passed after the receipt of the injury.

Dr. HALSTED said the man asserted that he had never had any trouble about his hip joint, and had neither been obliged to walk with a limp nor received any injury.

ANEURYSM OF THE FEMORAL ARTERY; LIGATION OF THE EXTERNAL ILLAC; CURE.—Dr. McBURNEY presented a patient with the following history: A man, fifty-seven years of age, ten years ago received a slight injury over the right femoral artery high up, and, apparently in consequence of that, a tumor formed, which had slowly but steadily increased in size, when, at the end of that time, he came under Dr. McBurney's observation. The patient had not had any pain or inconvenience from the tumor, but, on account of its rapidly increasing growth of late, he sought advice, and in November last came under Dr. McBur-

ney's care, who found a pulsating tumor in Scarpa's triangle, which presented the usual features of an aneurysm.

Dr. McBurney applied digital compression; but the patient was not prepared at that time to submit to treatment, and returned to his home in Vermont. After doing considerable hard work, he returned in December, and, when Dr. McBurney then saw him, he found Scarpa's triangle almost entirely occupied by the tumor, which also extended outward as far as the external edge of the great trochanter. It pulsed throughout its entire extent. He thought there still was room above the tumor to apply digital compression, which method was faithfully applied continuously for twelve hours by Dr. Woodward and other members of the house staff, but without avail. He then, on December 20th, ligated the external iliac artery. The operation was performed in the usual way. One noticeable feature about the case was that the vessel was so tortuous that it descended below the pelvis as much as an inch and a half, and had to be drawn up in order to throw a ligature about it. The operation was performed under frequent irrigations of bichloride solution, and a catgut ligature was used, which was applied about two inches above Poupart's ligament. The gut was an E violin-string, prepared and given to him by Dr. Briddon. The iodoform-gauze dressing was applied, and the first dressing was allowed to remain six days. At the end of that time it was removed, and the wound was found entirely healed, except where the drainage-tube had been inserted. A new dressing was applied, which was removed four or five days afterward, and the subsequent progress of the case was favorable and entirely uninterrupted. Nothing occurred after the operation in the way of interference with the circulation, such as sometimes manifested itself in cutaneous lesions. Dr. McBurney had not been able to find any pulsation or bruit in the tumor since the operation. It had diminished in size somewhat, but just how much he was at the time unable to say. It was nearly eight weeks since the operation was performed, and it seemed to him to be a satisfactory cure.

THE GEOGRAPHICAL DISTRIBUTION OF URINARY CALCULUS, WITH AN INQUIRY INTO ITS CAUSE.—Dr. E. L. KEYES then read a paper on this subject. [See page 237.]

Dr. Post said that he had lately received a letter from his son, in Beirut, Syria, in which he stated that he had just performed his two hundred and first operation for stone, showing that stone was very prevalent in that region including Syria and the adjacent provinces. All these operations had been performed within fourteen years. There were other operators in that locality, but most of the operations had been performed by Dr. Post, and probably also chiefly in hospital service. The climate was a semi-tropical one.

AN ARRANGEMENT FOR HOLDING NEEDLES AND SILK was shown by Dr. LANGE, who remarked that it might commend itself for very fine needles, such as were used for suture of the intestine, as it was rather tedious to arm the needles during the operation. The needles were to be threaded and secured between two rubber bands (of disinfected drainage-tube) around an ordinary test-tube, and the ends of the silk around the other extremity with another rubber band; then the whole was to be immersed in an ordinary lamp-chimney filled with pure glycerin, and corked with rubber corks. Thus far the needles had not corroded when kept in pure American glycerin, nor had he noticed that the sulphur which the rubber mostly contained had tarnished them.

COMPOUND DISLOCATION OF THE FIRST PHALANX OF THE GREAT TOE.—Dr. J. C. HUTCHISON had been called to see a man who had fallen from a tight rope. He visited the patient within half an hour after the accident, and found that he had a compound backward dislocation of the first phalanx of the great toe.

The wound was on the inner side, communicated with the joint, and was about half an inch in diameter. All the usual expedients were resorted to for effecting reduction, but without accomplishing it. He then divided the internal lateral ligament, a portion of which seemed to have been torn. Subsequently he divided the external lateral ligament, but still was unable to reduce the dislocation. He then divided the tendon of the extensor proprius pollicis subcutaneously, and at once was able to put the bone into position. No splint was used, but the toe was simply enveloped with a considerable quantity of cotton wool, and surrounded with a bandage. At the end of three or four days the dressing was removed and reapplied. Dr. Hutchison saw the patient walking with a crutch about a week after the occurrence of the accident, and learned that he had a satisfactory recovery. The case was interesting to him because it was the only one which he had met with, and it was also one which illustrated the difficulty of reduction, the same that was observed in dislocations of the thumb.

Dr. McBurney asked if the extensor tendon of the toe seemed to be the resisting point.

Dr. HUTCHISON said it seemed so, and he had an impression that, if he had divided this tendon first, reduction could have been effected without further operative interference.

NEW YORK MEDICAL AND SURGICAL SOCIETY.

Meeting of December 22, 1883.

Dr. T. M. MARKOE chairman for the evening.

DIETETIC TREATMENT OF PNEUMONIA.—Dr. B. W. MCCREADY said that he had been called about three weeks before to see a maiden lady, seventy years of age, who had previously been under his care. Dr. Hubbard had been called to see her at night, and had found her suffering very much from difficulty about the chest, and apparently dying. Dr. McCready arrived in the morning, and found the breathing near 50 a minute, the pulse 140, large mucous râles over the entire chest, and bronchial respiration at the root of the lungs. She expectorated with a great deal of difficulty. The sputa were of a blackish-brown color. She could not speak, and could scarcely swallow. Nourishment and stimulants were given as best they could be, and she continued to live for six days. Her sister, a slender, pale maiden lady of sixty years, came to nurse her, and was taken down in a similar manner and sent home. When Dr. McCready arrived she was breathing very rapidly, was not able to speak more than a word or so at a time, and had constant cough. There were large mucous râles over the entire chest. She received wine-when and milk for nourishment. A slight amount of counter-irritation, as much as her delicate condition would permit, was made over the chest. On the third day a moderate bronchophony was detected at the summit of the left lung, along with some dullness. The mucous râle obscured the crepitation entirely. Scarcely any medicine was administered; she took a little more than a pint of milk in the twenty-four hours, together with two or three eggs, a small amount being administered every four hours. She lay between life and death for some time, but at the end of a week began to convalesce, and was now feeling quite well. Dr. McCready attributed recovery to the systematic way in which nutrition was kept up, and to good nursing. While certain of the ordinary signs of broncho-pneumonia were masked, it was evident that such was the form of disease from which the patient suffered. He believed that nourishment administered at intervals of two hours, as was often done, was too frequent, as the stomach had not time to digest one meal before another was taken. He found that patients took milk better with a little carbonic-acid water than with lime-water.

THE POSSIBLE RELATION OF MYXEDEMA TO ABSENCE OR DISEASE OF THE THYROID GLAND.—Dr. A. B. BALL would allude for a moment to a point of interest with regard to the etiology of the disease known as myxœdema. In a recent discussion at the Clinical Society of London, Dr. Felix Semon had stated that an important contribution to the etiology of myxœdema had come from a very unexpected quarter. Professor Kocher, of Berne, Switzerland, during the past few years had extirpated the thyroid gland, either partially or wholly, in one hundred and one cases of disease of that organ. One of these cases, operated upon in 1874, had since that time been under the observation of another physician, who had recently called Professor Kocher's attention to the peculiar condition of the patient. Symptoms had developed which resembled very closely those of what was known as sporadic cretinism. The question arose at once whether the operation had had anything to do with this condition, and Professor Kocher set about examining as many of the other patients whom he had operated upon as could be found. For various reasons, only thirty-four could be examined. In sixteen of these cases only a portion of the thyroid body had been removed, and in all of them the general health had been preserved. Of the remaining eighteen cases in which the gland had been totally extirpated, there were only two of the patients who continued to be in good health. In one of these a small accessory thyroid gland had become hypertrophied, and in the other case a return of the goitre had occurred. All of the other sixteen cases of total extirpation presented a bodily and mental condition closely resembling that seen in sporadic cretinism and myxœdema.

The number of cases was sufficiently large to render it highly probable that the connection between the removal of the thyroid body and the development of the cretinoid condition was not accidental, but rather was truly causal. This interesting observation of Professor Kocher's naturally suggested the question whether the condition of the thyroid gland did not play an important part in the development of myxœdema. With reference to this point, Dr. Ball had recently examined a patient with typical myxœdema, who had been under his observation for the past ten years, and ascertained the following interesting particulars: When pregnant with her first child, about twenty years ago, the patient became affected with goitre sufficiently large to cause disfigurement and occasion her much anxiety. Her physician, the late Professor C. R. Gilman, assured her that the tumor would disappear after her confinement, and this result did occur. Her present symptoms of myxœdema, which were of the most pronounced character, began to develop gradually not very long after this time. At present no trace of the thyroid body could be detected.

AORTIC ANEURYSM BURSTING INTO AN ADHERENT PERICARDIAL SAC; OBSCURE SYMPTOMS.—Dr. G. G. WHEELLOCK narrated the following case: The patient, a colored woman, thirty-nine years of age, was admitted to the hospital on October 20th. She had been in the hospital some years since suffering from rheumatic troubles. At this time she complained chiefly of pain in the chest beneath the sternum, running through to the back, and of a great deal of dyspnoea and palpitation. The heart was found to be much enlarged, beating rapidly, and a loud diastolic murmur was heard at its base. His attention was called to the patient on the 5th of November, as she had had an attack of syncope during the night. She was then suffering intense pain, radiating through the chest to the back, and seemed to be much cyanosed; the pulse had increased in frequency to 140 beats, and an entirely different murmur had developed at the seat of the old one, systolic in character, heard distinctly all the way down toward the apex. The seat of greatest intensity was at the junction of the left third rib with the sternum. It was not

transmitted into the aortic region toward the right; at the locality mentioned there were also a perceptible thrill and pulsation. Three possible theories suggested themselves in explanation of her condition and physical signs. First, that endocarditis had developed and caused a new murmur. The absence of rheumatic symptoms and of febrile action was opposed to this view. Second, that there had been rupture of one leaflet of the mitral valve, permitting regurgitation from the ventricle back into the auricle, causing over-distension of the latter with attending impulse and murmur. The locality was somewhat opposed to this view, as the left auricle was deeply seated and rather more to the left. The third possibility was aneurysm. Opposed to this view was the fact that the murmur was not in the least transmitted to the right, and, had the rupture taken place suddenly within the pericardium, death would have followed speedily by paralysis of the heart by pressure. The patient lived five days longer, growing steadily worse until death. During this time the murmur continued systolic, accompanied by thrill and impulse. She complained of dysphagia, and of great pain extending from the sternum at the seat of the thrill to the vertebral column. She denied venereal disease.

At the autopsy, the pericardium was found totally adherent, so that there was no pericardial sac whatever. The mitral valve was considerably narrowed and stiffened, the aortic very much so. The aorta itself was the seat of atheromatous degeneration. About a quarter of an inch above one of the cusps, on the right side of the vessel, was a clear cut opening through the aorta, about half an inch in length and a quarter of an inch in breadth. The opening led into a cavity of the size of a small apple. The cavity was situated above and to the left of the right auricle, and its walls were formed of the pericardium externally and of the heart substance internally. Next to the walls were tolerably firm clots, and centrally there was a soft recent clot. The heart, with the pericardium, weighed twenty-one ounces. The opening had the appearance seen in gastric or intestinal ulcer with rounded edges, as if punched out. After the rupture had occurred, the blood had apparently dissected off the adherent pericardium sufficiently to make a place for itself and then formed a false aneurysm. All the remaining portion of the pericardial sac was closed by old adhesions. This anomalous condition of affairs sufficiently explained the nature of the accident which gave rise to the attack five days before death, and showed ample reason for the difficulty in making a positive diagnosis.

The CHAIRMAN thought the case an interesting one from a pathologico-anatomical point of view. Aneurysms occurring in this situation were comparatively rare, and never reached a large size before rupture of the coats took place, chiefly because the aorta within the pericardium had an external or fibrous coat. In the case narrated by Dr. Wheelock, however, the usual pathological process was modified by extensive adhesion of the pericardium to the organs which it inclosed. He once had a case of this form of aneurysm in a patient who, on rising in the morning, fell dead a few steps from the bed. In this case the aneurysm had developed within and ruptured into the pericardium, so that when the heart contracted the pericardial sac immediately filled with blood, and expansion was impossible. The patient died instantly.

Dr. ROBERT WATTS reported a case of inversion of the uterus by a fibroid tumor. [Printed elsewhere in this journal.]

THE PREVENTION OF OOOZING AFTER THE USE OF EMSARCH'S BANDAGE.—Dr. A. C. POST said that, by adopting the method of applying the dressing with some degree of firmness before removing the Emsarch bandage in bloodless operations, he had been able to avoid the troublesome oozing which often occurred when the bandage was removed before dressing the wound. In

operations upon the limbs, all oozing might be prevented by following the method mentioned and by keeping the limb elevated for three or four hours, except when large vessels were divided.

Dr. SANDS and Dr. WEIR testified to the value of the method, which was first suggested by Esmarch himself.

ALALIA IN CHILDREN.—Dr. POST had occasionally seen cases of mutism in young children sufficiently old to speak, but he had not been able to follow them up to learn the ultimate result except in one instance; in this the child reached its fourth year before it finally gained the power of speech. In a patient six years old, seen at his clinic the day of the meeting, hearing was good, and the mental faculties seemed unimpaired, but the child could scarcely utter any words except "papa" and "mamma."

Dr. WATTS recalled one case in which the power of speech was not manifest until the fourth year. At present, at the eighth year, the child could talk perfectly well.

Dr. SANDS had seen as many as half a dozen cases, in all of which there was want of proper mental development.

The CHAIRMAN was of the impression that there were a good many cases in which speech was defective up to four or five years of age. He recalled two cases in one family. Both persons had since grown up to healthy manhood and womanhood, and showed no lack of mental or physical development.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of January 2, 1884.

A FURTHER NOTE ON THE SPECIFIC TREATMENT OF ENTERIC FEVER.—Dr. JAMES C. WILSON read the following paper:

A year ago I read before the College a brief paper "On the Management of Enteric Fever" according to a plan based upon the so-called Specific Treatment. That communication, which will be found in the sixth volume of the third series of the "Transactions," beginning on page 221, was the outcome of the clinical study of a very limited series of cases in which the plan referred to had been fully carried out. The object of the present communication is to lay before you the results of the plan as employed during another year in the management of a second series of cases.

Before presenting to your attention the facts relating to this second series of cases, permit me to state that the plan of treatment consists in a close adherence to the so-called rational or expectant method of treatment in all its details, plus the systematic use of purgative doses of calomel in the early days of the attack, and of iodine and carboic acid throughout its whole course. These drugs are administered chiefly with the intention of realizing their effects in diminishing the activity of the supposed specific cause of the disease, and the treatment is therefore properly designated a specific treatment in contradistinction to the rational or expectant treatment on the one hand, and to all forms of symptomatic treatment on the other.

The first series of cases numbered sixteen, and all the patients recovered. The second series, treated during the year 1883, by a curious coincidence, also numbered sixteen, and two of the patients died. Of these, seven were severe, the temperature reaching or exceeding 104° F. (40° C.).

Of these seven severe cases, the two which terminated fatally were in colored men, admitted to the wards of the Philadelphia Hospital late in the attack and in a state of profound stupor. One, aged twenty-seven years, died on the seventh day after admission; the other, aged forty-seven years, on the twenty-first day. The latter passed albuminous urine, and presented after death the lesions of interstitial nephritis in addition to those of enteric fever.

Two non-fatal cases were attended by profuse and repeated

intestinal hemorrhage in the third week. One of the patients, a man aged twenty, had, during convalescence, necrosis of the mastoid process of the right temporal bone. One case of great severity occurred in a man aged sixty-two years, whose convalescence was, however, rapid and without sequels. No instance of relapse was observed. The characteristic eruption was present in all the severe cases. It was not discovered in four of the mild cases.

The average duration of the five severe cases, in which recovery took place, was about thirty-two days; that of the nine mild or medium cases was about twenty-four days. Of the whole number, six were treated in hospital and ten in private practice.

It is worthy of notice that the convalescence in these cases was rapid, as a rule without complication, and that no instance of relapse occurred. An analysis of the combined series shows as a result of this treatment in my hands thirty-two cases—sixteen treated in hospital, sixteen in private practice, with two deaths (patients admitted to hospital in profound stupor). The death-rate is therefore 6.25 per cent. I refrain from citing, for comparison, the familiar statistics of the death-rate of enteric fever. We have come to regard it as ranging from 15 to 20 per cent., with a more favorable showing in private than in hospital practice. But Welch, from the statistics of the medical service of the British army, has recently shown it to exceed 33.3 per cent., and Dr. Francis Delafeld, in an important statistical paper on this fever as it occurs in New York (see "Medical News," November 24, 1883), has shown that the death-rate in hospital cases, though varying in different years, ranges between 20 per cent. as the lowest and 30 per cent. as the highest limit.

Dr. ARTHUR V. MEigs said: This so-called "Specific Treatment of Typhoid Fever" appears to me a mistaken plan founded upon an untenable theory. We are asked, in the first place, to assume that typhoid fever has for its cause a germ whose very existence is not known, and, second, that calomel, iodine, and carboic acid, given by the mouth, will meet with and destroy this imaginary germ. Neither of these assumptions can be considered proved. Why do we not give the same drugs in cases of scarlet fever, measles, or small-pox, for there is as good reason to believe them to originate from germs, and that the same germicides would be effective for their destruction? I should not be so outspoken in my denunciation of this method of treatment if it could be looked upon as harmless, but it seems capable, on the contrary, of much mischief. Whatever may be the effect of such large doses of iodine and carboic acid, we were almost all taught, and have up to this time believed, the effect of purges given in the earlier stages of typhoid fever to be most disastrous. Dr. Wilson himself, I doubt not, was taught, as I was, when a resident physician in the Pennsylvania Hospital, that even a teaspoonful of castor-oil given to a patient in the early stage of the fever might cause a diarrhoea which would continue throughout the attack. Is there no reason for this belief, and is not calomel capable of producing the same effect? Dr. Wilson says the treatment of typhoid fever is at sea; to me it seems, on the contrary, that there is no disease in regard to the treatment of which there is such general agreement. How many men in this room treat cases of scarlet fever alike, and how many treat typhoid fever differently? The present treatment of the disease is the treatment of common sense; so far as the local lesion is concerned, we treat it as a surgeon treats a wound: we try to give the part rest and avoid all causes of irritation, and nature thus is given time and opportunity to heal the ulcers. We treat symptoms as they arise, and support the strength of the patient with food and water, and stimulants if necessary, through the four or six weeks during which fever is burning his tissues until he is reduced almost to a skeleton.

Now, can purging with calomel or administering such nauseous drugs as carbolic acid and iodine conduce to this result? Will the patient be any better able to go through his weeks of fever? Does Dr. Wilson show that the method shortens the duration of the disease one day or one hour? It appears like asking us to go back to the days of ignorance which existed before Stokes and Graves and the great men of that day who taught us how to treat the disease. Years ago Stokes put in a few words the common-sense view of the question. It must be remembered that at that time the distinction between typhus and typhoid fevers was not drawn. He says: "I confess that it was not until several years after I commenced practice that I became fully aware of the erroneousness of what is termed the anatomical theory of disease; and I feel certain, humiliating though the confession may be, that the fear of stimulants in fever with which I was imbued was the means of my losing many patients whose lives would have been saved had I trusted less to the doctrine of inflammation and more to the lessons of experience, given us by men who observed and wrote before the times of Bichat or of Hunter.

"The hospital physician will be frequently asked by students to state the principle on which he administers wine in fever. Typhus fever is a disease which has a tendency to a spontaneous and favorable termination, but one in the course of which the powers of life are attacked by a most malignant influence. By wine, food, and other stimulants we support nature until the struggle is past, so that, to use the words of an ancient author, which embody a more profound principle than appears at first sight, we 'cure the patient by preventing him from dying'—that is to say, we prolong his existence until the natural and favorable termination of the disease arrives. We do not allow our patients to die of exhaustion, and, bearing in mind the depressing influence they have to struggle with, we give stimulants at the proper time and with a bold hand. We give our patients an artificial life till the period arrives when nature and health resume their sway."

If we are asked to try the method because it lessens the death-rate, I think that can hardly yet be considered as proved. The number of cases recorded by Dr. Wilson is yet too small to prove any point. In looking over some old lectures by my father, the late Dr. J. Forsyth Meigs, delivered about the year 1850, I found that he reported a series of sixty-nine cases treated in private practice and only five deaths. This makes a death-rate of 7.24 per cent., while Dr. Wilson's series of thirty-two cases and two deaths makes the death-rate 6.21 per cent. The number of cases treated by him is less than half. The cases reported by Dr. Meigs were treated when bleeding and purging were still customary, and even his results are but little inferior to those of Dr. Wilson, and both are infinitely better than any published hospital statistics. In the first thirty-nine of Dr. Meigs's series of cases he had four deaths; but, in the thirty coming afterward, only one death occurred. These results bear comparison with Dr. Wilson's, particularly the second series, which came after the first, and when bleeding and purging were becoming less the medical fashion of the day and the expectant plan was more pursued. A comparison of the first and second series of cases shows how little reliance is to be placed upon deductions drawn from the treatment of such small numbers; for in the first the death-rate was 10.25 per cent., while in the second it was only 3.33 per cent. An examination of such records as I possess enables me to recall twenty-seven cases I have treated in private practice. In these, two patients died, making a death-rate of 7.40 per cent. One of the deaths was of a boy, who was taken sick in a house where there were eight or nine cases of diphtheria and diphtheritic sore throat, almost every one living in the house at the time being more or less affected—

the cause being a foul, leaky brick drain which ran through the cellar. The other death was of a man, about fifty years of age, in whom the diagnosis was not made until about the end of the second week of the disease. During the first two weeks he was in and out of bed, and made at least two journeys of sixty or seventy miles by rail, and finally died of perforation of the bowel and peritonitis, which were found at a post-mortem examination. If the total number of cases reported by Dr. Meigs and my own be considered together, there were treated in private practice ninety-six cases with seven deaths, making an average death-rate of 7.29 per cent. Not a bad showing for the old treatment, when it is considered that typhoid fever has always been looked upon as one of the most fatal of all diseases.

Reports on the Progress of Medicine.

ANATOMY AND PHYSIOLOGY.

BY GRAEME M. HAMMOND, M.D.

THE INNERVATION OF THE MAMMALIAN HEART.—L. C. Woolridge, D. Sc., and Mr. George Henry Lewes ("Proc. of the Royal Soc.") state that the ventricular nerves, which are very numerous, form the greater part of the nervous connection between the auricle and the ventricle. They can not be adequately stimulated after they have passed on to the ventricle, since the stimulus affects the heart itself and destroys the activity of the ventricle by bringing about a peculiar condition of fibrillar contraction. The ventricular nerves pass on to the ventricle at definite points of the auriculo-ventricular boundary, where they are collected into larger trunks. Division of these trunks neither influences the rhythm of the heart nor impairs the action of the vagus or accelerans nerves. The ventricular nerves are the continuation of certain definite cardiac nerves, which can be isolated in the thorax at a distance from the heart. The majority of the nerves on the posterior surface of the heart are derived from a trunk which arises either from the left vagus ganglion, or from some part of the ansa Vieusseni (left accelerans). This nerve usually runs quite isolated to the heart. Stimulation of its peripheral end resulted as follows: Out of fourteen experiments, it exerted in four a vagus action, without any acceleration; in two an accelerating action, without any inhibition; in eight it had no influence on the rhythm. The nerve sometimes gives off branches to the auricle; in some of the cases, where no influence on the rhythm was noticed, these branches had been cut away. Stimulation of the other cardiac branches, which are in connection with the ventricular nerves, sometimes produced inhibition and sometimes acceleration. Division of the trunks which continue these nerves on to the ventricle did not produce any change in the result of their stimulation. It is therefore concluded that the ventricular nerves have no direct influence on the rhythm of the heart. Stimulation of the central end of those cardiac nerves which are continued on to the ventricle is marked by a rise and fall of blood pressure, and slowing and quickening of the pulse.

THE INFLUENCE OF THE INORGANIC CONSTITUENTS OF THE BLOOD ON THE VENTRICULAR CONTRACTIONS.—Dr. Sidney Ringer ("Journal of Physiology," August, 1883) has found that, when fed with a neutral fluid, the ventricle will contract for ninety minutes or longer. Bicarbonate of sodium added to a saline solution increases the ventricular contractions. This is probably due to its alkaline properties, as ammonium carbonate or lime-water will produce the same restoration of the beats. It is more than probable that the acid developed in the muscles under con-

traction gradually weakens, and at last suspends contractility. The alkaline solution neutralizes the acidity and renews the ventricular contractions.

THE COAGULATION OF THE BLOOD.—Mr. L. C. Woolridge ("Journal of Physiology," August, 1883) remarks that blood plasma, after it has left the vessels, converts the white cell into fibrin and liberates a certain substance, called fibrin ferment, which is able to bring about the coagulation of the fibrinogen in the plasma. This fibrin ferment owes its power of coagulation to the presence of a substance called lecithin, a body omnipresent in protoplasm. Lecithin is prepared by making an alcoholic extract of the lymph cells.

THE PROPAGATION OF HEAT BY CONDUCTION IN BONE, BRAINTISSUE, AND SKIN.—Dr. J. S. Lombard ("Proc. of the Royal Soc.," June, 1882) gives the results of over seven hundred experiments performed by placing one surface of the object to be tested in contact with water at a known temperature, and the other surface with thermo-electric piles connected with a galvanometer. One degree of the galvanometer equaled 0.0006742° C. Water 0.1° C. colder than the atmospheric temperature was used. The tissues tested were pieces of sheep's skull and brain, each 7.5 mm. thick, and a piece of sheep's scalp 3 mm. thick. The galvanometer indicated the transmission of heat through skin in 17.6 seconds, through bone in 28.4 seconds, and through brain in 30.88 seconds. When skull and skin were taken together, the galvanometer averaged 2.767° in 1 minute, 15 seconds. When skull, skin, and brain were used together, the average deflections of the galvanometer were 0.392° in 1 minute, 15 seconds.

THE STRUCTURE OF THE CEREBRAL CORTEX.—M. J. Luys ("L'Encéphale," March-April, 1883) states that the gray substance is composed of: 1. Nerve cells of different dimensions. 2. Nerve tubes. 3. Interstitial connective tissue called neuroglia. 4. Capillaries. The nerve cells are generally pyramidal, they are yellow in color, and measure from 10 μ to 50 μ . The largest cells are found in the deepest regions of the cortex and the smallest near the surface. These cells present numerous prolongations from the apex, base, and sides. Those from the apex are continuations of the nerve cells themselves, and are prolonged into filaments, which either connect with cells in a superior altitude or else are lost in the neuroglia. Those emerging from the sides of the cells divide into minute branches and connect with branches of other cells of the same altitude. The neuroglia is constituted by an excessively fine reticulum of connective tissue, which, acting as a cement, holds the cells and nerve tubes in position. The capillaries, protected by a sheath, penetrate directly into the gray substance and divide into numerous fine branches. Their walls are adherent to the neuroglia.

CEREBRAL LOCALIZATION.—Mr. Seymour J. Sharkey ("Lancet," Oct. 13, 1883) cites the following six cases in which the autopsy revealed softening and destruction of different areas of the cerebral cortex: *Case I.*—Crural monoplegia, the lesion involving the paracentral lobule and the upper part of the ascending frontal and parietal convolutions. *Case II.*—Brachial monoplegia, the lesion occurring in the middle of the ascending parietal convolution. *Case III.*—Facial monoplegia and aphasia, the lesion being situated in the inferior extremities of the two ascending and the posterior part of the third frontal convolutions, on the left side. *Case IV.*—Paralysis of the arm and face on the same side of the body, the lower half of the cortical motor zone being the seat of softening. *Case V.*—Paralysis of the arm and leg on the same side of the body, the lesion affecting the upper part of the ascending frontal and parietal convolutions. *Case VI.*—Paralysis of one lateral half of the body, excepting the face, the lesion being found in the upper half of the motor zone. Cases III, IV, and VI agree with the observations al-

ready made by Charcot and Pitre relative to the location of the lesions accompanying the symptoms previously mentioned, but Cases I, III, and V involve a much greater area than these authors allow. Ferrier's plan of the cortical motor centers covers these three cases more exactly.

THE MOTOR ROOTS OF THE BRACHIAL PLEXUS, AND THE DILATOR NERVE OF THE IRIS.—Dr. David Ferrier ("Proc. of the Royal Society," May 10, 1883) states that the anterior division of the second dorsal nerve in the monkey invariably gives off a communicating branch to the first dorsal nerve. Dr. Allen Thomson found such a communicating branch in the human subject in twenty-seven out of thirty-seven dissections. If a perfect homology existed between the roots of the plexus in man and in the monkey, the second dorsal root would be the one presiding over the intrinsic muscles of the hand.

In investigating the subject of the dilator nerve of the iris, the spinal nerves were exposed, the posterior roots were cut, and the anterior roots stimulated, while the eyes were carefully observed. Dilatation of the pupil invariably occurred on stimulation of the second dorsal root. Stimulation of the other roots produced no change in the iris. The general result of these experiments is to show that in the monkey, and presumably also in man, the dilator fibers of the iris contained in the cervical sympathetic are derived from the anterior roots of the second dorsal nerve.

THE FORMATION OF URIC ACID IN THE ANIMAL ECONOMY, AND ITS RELATION TO HIPPUIC ACID.—Dr. Alfred Baring Garrod ("Proc. of the Royal Society," February, 1883) shows that in the semi-solid urine of birds and reptiles and invertebrata the urate is always in the form of spherule aggregates, made up of a great number of smaller spherules, each of which is united with or contained in a cell of colloid matter. Uric acid is not, as is commonly supposed, formed in the animal body during the progress of metabolism, then thrown into the blood and afterward filtered or strained off by the kidneys, and thus finally eliminated from the body; but it is absolutely found in the renal organs themselves by the action of peculiar cells. It probably exists in these cells as the urates of an organic base yielding ammonia, or as a complex organic principle, readily splitting up into uric acid and ammonia. For the most part, it is excreted as such urate, which, however, may be changed into urate of sodium, or any other metallic urate, according as it meets with one or another salt. Probably there is always a trace of uric acid absorbed into the blood by the kidney cells, and, when its forward progress is obstructed by disease or any other cause, its absorption into the blood becomes greatly increased, and it is then converted into urate of sodium on account of its meeting with large amounts of the chloride and phosphate of that metal. It is at times deposited both in man and in the lower animals, in cartilaginous and fibrous tissues, in the form of crystallized urate of sodium.

MODIFICATIONS OF MOTILITY IN MOTOR NERVES AND IN MUSCLES.—Dr. P. C. Plugge ("Revue de médecine," December, 1883) gives the results of experiments performed by himself with aconitine on the motor nerves and muscles of frogs. These conclusions differ essentially from those obtained by Laborde and Duquesnel, who assert that the motor function of mixed nerves is not only not abolished by the physiological and toxic effects of aconite, but that it persists during all the phases and up to the period of extreme intoxication, and even for a certain time after death. Dr. Plugge, after performing a great number of experiments, concludes that aconitine and pseudo-aconitine paralyze the peripheral intra-muscular terminations of the motor nerves, and operate in this respect like curare. Here is, therefore, a complete contradiction.

The experimenter employed seven different forms of com-

mercial aconitine, the toxic properties of which diminished in the following order: Aconitine of Duquesnel, of Morson, of Hottot, of Hopkin and Williams, of Merck, of Schuchart, and of Trommsdorff. The animals selected for the experiments were frogs, and the solution was injected, by means of a Pravaz's syringe, under the skin of the back. The dose of the poison varied from one tenth of a milligramme to ten milligrammes. The nerves and muscles were irritated by an induced current, the intensity of which was regulated by the apparatus of Du Bois-Reymond. The results of the excitation, both of the nerves and of the muscles, were ascertained by means of Pfüger's myograph and Marey's recording cylinder.

Another method was to inject the poison after the circulation in one of the posterior extremities had been arrested by ligating the vessels, and again after applying a ligature to the vessels on a level with the sacrum. In all these cases it was observed that those nerves and muscles which were supplied by the poisoned blood were paralyzed, while those members in which the circulation was shut off retained their excitability perfectly.

Dr. Plugge therefore contends, notwithstanding the deductions of Laborde and Duquesnel, that aconitine, if given in sufficiently large doses, causes a complete paralysis of the motor nerves.

SOME HITHERTO UNAPPRECIATED FACTS IN THE ANATOMY OF THE VENOUS SYSTEM.—Dr. John Gray, F.R.C.S. ("Lancet," Dec. 15, 1883) calls attention to some interesting experiments by injections, which show conclusively that there is a free anastomosis of the veins of the trunk, even in parts where valves exist and might be supposed to interfere with such freedom of communication.

Wax was used as an injecting fluid, and the experiments were performed both in the human subject and in monkeys, and were invariably attended with success, provided the animals operated upon were in a healthy condition. It was shown in this manner that, if a tributary vein was injected in any part of the body, as, for instance, the internal mammary, and in any direction, either backward or centripetally, the injected fluid (if thin enough for permeation) would fill every vein throughout the body and extend into its finest ramifications. This Dr. Gray conceives to be a new fact in connection with the venous circulation. In order to prove the communication, even when the veins are apparently exposed to valvular interruption, as in the azygoids, they must be injected by two distinct methods and from different points: first, forward from an iliac, renal, or sacro-lumbar—a systemic vein; and then, after tying its trunk in another subject, backward or in a direction opposed to the natural current, from the orifice of a remote collateral—e.g., an internal mammary, or internal jugular vein. In the first, the injection will be checked by the valves at the junction of the thoracics with the intercostals, while in the second it will take a circuitous route and fill the void costal portions. The next point is that the injection, in taking this course, fills every interposing organic structure. It will traverse the lungs, the liver, the kidneys, and probably the spleen, the supra-renal capsules, and the thyroid gland.

A NEW DIVERTICULUM OF THE NASO-PHARYNGEAL SPACE.—Dr. O. Pertik ("Arch. für path. Anat. und Phys. und für klin. Med.") describes a new diverticulum situated in the naso-pharyngeal space. It was discovered in a man, about fifty-five years of age, who had died suddenly. On removing the cervical vertebrae and the tissues at the back of the pharynx, a fluctuating bilateral, symmetrical sac was observed, composed of fat and connective tissue, which projected laterally and downward over the upper part of the concave wall of the superior constrictor of the pharynx. Instruments could be passed into it from the lower

part of the nasal passage, and it was found, when examined, to be nearly filled with coagulated blood. Two similar cases are reported by Zuckerkandl and Luschka. Dr. Pertik believes that these formations are congenital, and that their effect is to alter the normal resonance quality of the voice.

Miscellany.

AN ACT TO ESTABLISH THE MEDICAL FACULTY OF THE UNIVERSITY OF THE STATE OF NEW YORK, TO REGULATE THE LICENSING OF PRACTITIONERS OF PHYSIC AND SURGERY, AND TO FURTHER REGULATE THE PRACTICE OF PHYSIC AND SURGERY.—Herewith we give the full text of the two bills that were made the subject of debate at the recent meeting of the Medical Society of the State of New York:

The Committee's Bill.—SECTION 1. On or before the first day of June, eighteen hundred and eighty-four, the Governor shall appoint the Medical Faculty of the University of the State of New York, to consist of nine members, who shall be authorized practitioners of physic and surgery in this State, but none of whom shall be connected with any medical school or college which grants the degree of M. D.; provided, that in the appointments made the representation of the several systems of medical practice recognized by the incorporated medical societies of this State shall be in the proportion of six, two, and one—that is to say, the system having the largest number of licensed practitioners to have six, that having the next largest to have two, and the remaining system to have one representative; and all persons desiring to enter upon the practice of physic and surgery in this State, after November first, eighteen hundred and eighty-four, shall, before doing so, comply with the provisions hereinafter prescribed, and obtain the license hereinafter provided.

SEC. 2. Of the nine members of the said Medical Faculty, three shall serve, in the first instance, for three years, three for four years, and three for five years; and these terms shall be severally distributed by lot at the first meeting of the said faculty. All appointments made in the faculty at the expiration of the several terms fixed above shall be made uniformly for the period of five years each. All vacancies occurring in the said faculty, from whatever cause, shall be filled, before the next semi-annual meeting of the same, by the appointment by the regents of the university of a practitioner of the system of practice that had previously been represented by the person occupying the seat so vacated, such appointments to be for the unexpired term; and, in case the several State medical societies shall nominate physicians to fill such vacancies, the regents shall appoint some one of the physicians so nominated. The regents may, for cause, remove from office any member of the faculty after due notice, and an opportunity to be heard.

SEC. 3. The said Medical Faculty shall examine all applicants for license to practice physic and surgery in this State. The members thereof shall meet at least semi-annually, and at such meetings shall faithfully examine all candidates referred to them for that purpose by the chancellor of said university, and each furnish him a report in writing of his opinion as to the qualifications and merits of each candidate, referring briefly to the degree of proficiency evinced by the applicant in the branches in respect of which he was examined by him; which opinion shall be by him denominated favorable or unfavorable. The president or secretary of the faculty shall have authority to administer oaths, and the faculty to take testimony in all matters relating to its duties, and any false statement made under an oath so administered shall subject the offender to prosecution for, and, on conviction, to punishment for, perjury.

SEC. 4. Such examination shall be in anatomy, physiology, histology, pathology, theory and practice of medicine, chemistry, surgery, obstetrics, materia medica, and therapeutics, and such other branches in the several departments of medical science as the said faculty may agree upon, subject to the approval of the regents of the university. The questions forming such examinations shall be the same for all classes

of candidates offering themselves, with the exceptions of the departments of materia medica and therapeutics, in which branches the questions for each candidate shall be prepared by the representative or representatives in the board of examiners, of the system of practice to which such candidate wishes to be licensed.

SEC. 6. The orders of the chancellor addressed to the Medical Faculty and the decision of the regents of the university in each case shall be attached to the written reports of the examiners, together with the questions of said examiners and the written answers thereto of each candidate, and shall thereupon become and forever after be a part of the public records of said university.

SEC. 6. Any person, on paying fifteen dollars into the treasury of the university, and on applying to the chancellor for the aforesaid examination, shall receive an order addressed to the aforesaid Medical Faculty, instructing them to examine the candidate at one of the regular semi-annual examinations, provided that proof satisfactory to the chancellor is first given that the candidate is over twenty-one years of age, of good moral character, and has received a diploma issued to him or her, conferring on him or her the degree of doctor of medicine from some legally incorporated medical college.

SEC. 7. The regents of the university, after finding that seven or more of the members of said faculty participating in the examination have given an opinion in favor of a candidate, shall issue to him or her a license to practice physic or surgery in the State of New York, for which license the candidate shall pay to the university the further sum of ten dollars. Said faculty may refuse to recommend a license to any individual guilty of dishonorable or criminal conduct, and for like cause, after giving the accused an opportunity to be heard in his or her defense, the regents of the university may revoke said license.

SEC. 8. The moneys paid to the university under the provisions of this act shall be appropriated by said regents for, and shall defray all expenses incurred under the provisions of this act.

SEC. 9. The Medical Faculty shall meet on the second Monday of November, eighteen hundred and eighty-four, at the university in the city of Albany, and seven members thereof shall then and thereafter constitute a quorum, and shall at once organize by the election of a president and secretary, and such other officers as may then be determined, and then and thereafter adopt such rules and regulations, not in conflict with the provisions of this act, as may meet with the approval of the regents of the university; and shall forthwith proceed to the examination of all such applicants as shall then present themselves with the order referred to in section six of this act.

SEC. 10. Subsequent to the first day of November, in the year eighteen hundred and eighty-four, every person (except such as have before such date lawfully registered pursuant to the laws of the State in force at the time of the passage of this act), after complying with sections six and seven of this act, shall, before commencing to practice physic or surgery, register in the clerk's office in the county where he or she practices or intends to practice physic or surgery, in a book to be kept by the said clerk, his or her name, residence, and place and date of birth, together with the date of his or her diploma and by what institution granted, with date of his or her license to practice physic or surgery within this State; at the same time the person so registering shall exhibit both the license and the diploma herein required to the clerk, and subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of this State, an affidavit containing all the facts as aforesaid, and shall file said affidavit and copy of said diploma with said clerk; said county clerk to receive a fee of twenty-five cents for such registration, payable by the person so registering. Nothing in this section shall be so construed as to prohibit medical consultations in the different counties of the State between legally qualified and registered physicians of this and other States.

SEC. 11. A person who shall willfully swear falsely to any statement contained in the affidavit required by the tenth section of this act shall be deemed guilty of and subject to conviction and punishment for perjury; and a person who violates any of the other provisions of this act, or who shall practice physic or surgery in this State under cover of a diploma unlawfully issued or illegally obtained, or without a license as provided for in this act, shall be deemed guilty of a misdemeanor,

and, on conviction thereof, shall be punished by a fine of not less than two hundred and fifty dollars nor more than five hundred dollars for the first offense, and for each subsequent offense by a fine as aforesaid and by imprisonment for not less than thirty days and not more than six months. The fine when collected shall be paid, one half to the person or corporation making the complaint, the other half into the county treasury of the county where such conviction shall be had.

SEC. 12. For the purpose of this act the words "practice physic or surgery" shall mean to annex the letters "M. D." to one's name, or to suggest, recommend or prescribe, direct or employ, as a matter of business or for a fee, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the treatment, cure, relief, or palliation of any real or supposed ailment or disease of the mind or body, or for the treatment, cure, or relief of any wound, fracture, or other bodily injury or infirmity, or any deformity. But nothing herein contained shall prevent or interfere with the manufacture or sale of proprietary medicines as articles of merchandise.

SEC. 13. Nothing in this act shall apply to commissioned medical officers of the United States army or navy, or of the United States Marine-Hospital service, nor to any of the members of the house staff of any legally incorporated hospital during the term of their service as such, nor to medical students who have already matriculated in any legally incorporated medical college of this State.

SEC. 14. So much of chapter seven hundred and forty-six of the laws of eighteen hundred and seventy-two, chapter five hundred and thirteen of the laws of eighteen hundred and eighty, chapters one hundred and eighty-six and six hundred and seventy-nine of the laws of eighteen hundred and eighty-one, as are inconsistent with this act, and all other acts and parts of acts inconsistent with this act, are hereby repealed.

The College Bill.—SECTION 1. From and after the first day of June, 1884, there shall be and continue a Medical Faculty of the University of the State of New York, consisting of nine members, appointed by the Governor.

The Medical Faculty shall be, and continue to be, so constituted that every member thereof shall be a legally authorized practitioner of physic and surgery in this State, and no member thereof shall be or become connected with any medical school or college.

Of the nine members of the Medical Faculty first appointed, three shall hold office for three years, three for four years, and three for five years, from the first day of June, 1884, as shall at their first meeting be by themselves determined by lot, and certified in writing to the Governor. Except as otherwise hereinafter provided, the members thereafter appointed shall each hold office for five years from the first day of June, in the year of appointment, unless appointed to fill a vacancy occurring otherwise than by expiration of a term of office, in which event the member so appointed shall hold office only for the unexpired term.

SEC. 2. The Governor, on or before the first day of June, in the year 1884, shall appoint nine persons, qualified as aforesaid, and on or before the first day of June in every year thereafter in which terms of membership shall expire, shall appoint three persons so qualified, to be members of the Medical Faculty.

The Governor, under the conditions before prescribed, shall, by appointment for the unexpired term, fill any vacancy occurring otherwise than by expiration of term. Upon the written recommendation of three fourths* of the Medical Faculty, the Governor may remove from office any member of the faculty.

SEC. 3. From and after the first day of November, in the year 1884, no person not theretofore lawfully authorized to practice physic and surgery in this State shall enter upon or be admitted to such practice unless lawfully licensed, after examination by or under the supervision of the Medical Faculty, in the manner hereinafter provided, or unless regularly authorized by the diploma of some legally incorporated medical school or college in this State.

SEC. 4. From and after the first day of November, in the year 1884, excepting persons regularly authorized by the diploma of some legally incorporated medical college in this State, and except as provided in

* So the draft reads, evidently from a clerical error.—EDITOR.

the seventh section of this act, any person not theretofore lawfully authorized to practice physic and surgery in this State, and desiring to enter upon such practice, may, upon payment of twenty-five dollars into the treasury of the university, deliver to the Regents of the University a written application for license, together with satisfactory proof that the applicant is more than twenty-one years of age, is of good moral character, and has received a diploma conferring the degree of doctor of medicine from some legally incorporated medical college, and thereupon the Regents of the University, through such officer as may from time to time be designated for that purpose, shall issue to such applicant an order for examination by the Medical Faculty.

SEC. 5. The Medical Faculty shall hold a meeting at least twice in each year, in Albany or New York, for the purpose of examining such applicants, and at each meeting shall faithfully examine every such applicant presenting the order of the Regents of the University.

The examination shall be in and upon the several departments and branches of medical science as the same shall have been designated by the Medical Faculty, with the approval of the Regents of the University.

The questions propounded shall be such as from time to time shall have been determined and designated by the Medical Faculty, subject to review by the Regents of the University, and written answers to such questions shall be required.

Without unnecessary delay, after the close of each examination, the Medical Faculty shall transmit to the Regents of the University the answers of each applicant so examined, together with the opinion of each member participating in such examination as to the qualification and merits of each applicant, and as to his or her degree of proficiency in each of the several branches in respect of which he or she shall have been examined; which opinion shall, by the member rendering the same, be therein denominated as "favorable" or "unfavorable."

SEC. 6. The Regents of the University shall issue to every such applicant who shall have been so examined, and as to whom a "favorable" opinion shall have been delivered by seven or more members of the faculty participating in such examination, a license to practice physic and surgery in the State of New York. Such license shall be delivered only upon payment of the sum of fifteen dollars into the treasury of the university, and shall entitle the person so licensed to practice as aforesaid until such license shall have been revoked for cause as hereinafter provided.

SEC. 7. From and after the first day of November, 1884, the legally authorized medical schools and colleges in this State shall issue diplomas conferring the degree of doctor of medicine and the right to practice physic and surgery within this State after examination under the supervision of the Medical Faculty in the following manner: Whenever any such school or college shall propose to make any such examination it shall give to the Medical Faculty notice thereof in the manner which shall have been previously prescribed by the Medical Faculty, which shall, without delay, designate and appoint three of its members to attend such examination. The questions to be addressed to the candidates for degree at such examination shall be submitted to the members of the Medical Faculty attending such examination, and all answers thereto shall be open to their inspection. The expenses of such attending members of the Medical Faculty, and the compensation of each member, at the rate of twenty-five dollars per diem for each day spent in going to or from, or attending such examination, shall be paid by the medical school or college at which such examination shall be had.

SEC. 8. The Medical Faculty may, by a two-thirds vote, after having given to the person to be affected an opportunity to be heard, recommend to the Regents of the University the revocation of any license issued under the provisions of this act, or of any right to practice physic and surgery under any diploma hereafter issued, because of professional incompetency or misconduct, and unless the Regents of the University shall upon the record decide that such recommendation is not well founded, the license so issued and the right to practice under such diploma shall be withdrawn, from and after the time when such recommendation shall have been made by the Medical Faculty, and unless and until such recommendation shall have been overruled by the Regents of the University, the person accused shall not practice physic or surgery in this State, and any license issued under any former act may be similarly revoked for unprofessional or dishonorable conduct subse-

quent to the passage of this act, and after such revocation the person affected shall not practice physic or surgery within this State.

SEC. 9. The Medical Faculty may, by a three-fourths vote, recommend the Regents of the University to vacate, annul, or suspend the charter of any medical college or school within the State, and the Regents of the University, after giving to such medical college or school, through its trustees or directors and faculty, a proper opportunity to be heard, may, by a two-thirds vote, adopt such recommendation in whole or in part, and may vacate, annul, or suspend the charter of such medical school or college, or may make such determination or order as in the matter may seem proper, and thenceforth the rights and powers of such medical school or college shall exist, and be exercised only in subordination to such determination of the Regents of the University.

SEC. 10. The Medical Faculty is authorized to take testimony concerning all matters within its jurisdiction, and the presiding officer for the time being of the Medical Faculty or of any of its committees may issue subpoenas and administer oaths to witnesses.

All of the records and proceedings of the Medical Faculty shall for ever be a part of the public records of the university. Every member of the Medical Faculty shall take, subscribe, and file with the Secretary of State the oath prescribed by the twelfth article of the Constitution. Except as provided in the seventh section of this act, there shall be paid out of the treasury of the university the expenses of the office of the Medical Faculty, the actual expenses of the Members of the Faculty in the discharge of their duties, and such compensation for actual service as may be allowed by the Regents of the University.

SEC. 11. The Medical Faculty shall meet on the first Monday of November, 1884, at the University in the City of Albany, and seven members thereof shall then and thereafter constitute a quorum, and shall at once organize by the election of a president and secretary, and such other officers as may then be determined, and then and thereafter adopt such rules and regulations, not in conflict with the provisions of this act, as may meet with the approval of the Regents of the University; and shall forthwith proceed to the examination of all such applicants as shall then present themselves with the order referred to in section four of this act.

SEC. 12. Subsequently to the first day of November, in the year 1884, every person (excepting such as may have theretofore lawfully registered pursuant to the laws of the State) being licensed under sections 6 or 7 of this act shall, before commencing to practice physic or surgery, register in the Clerk's Office in the county where he or she practices or intends to practice physic or surgery, in a book to be kept by the said clerk, his or her name, residence, and place and date of birth, together with the date of his or her diploma, if any, and by what institution granted, with his or her license to practice physic or surgery within this State; at the same time the person so registering shall exhibit both the license and the diploma, if any, herein required, to the clerk, and subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of this State, an affidavit containing a plain statement of all the facts as aforesaid, including his or her age, and shall file said affidavit and copy of said diploma with said clerk; said county clerk to receive a fee of twenty-five cents for such registration, payable by the person so registering. Nothing in this section shall be so construed as to prohibit medical consultation in the different counties of the State between legally authorized and registered physicians of this and neighboring States.

SEC. 13. Any person who shall willfully swear falsely to any statement contained in the affidavit required by the eleventh section of this act shall be deemed guilty of a felony and subject to conviction and punishment for perjury, and any person who shall violate any of the other provisions of this act, or who shall practice physic or surgery in this State under cover of a diploma unlawfully issued or illegally obtained, or who, not being then lawfully authorized to practice physic and surgery in this State, shall, upon or after the first day of November, in the year 1884, practice or publicly profess to practice physic or surgery within this State without a license as provided for in this act, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine of not less than two hundred and fifty dollars or more than five hundred dollars for the first offense, and for each subsequent offense by a fine as aforesaid and by imprisonment for not

less than thirty days and not more than six months. The fine when collected shall be paid, one half to the person or corporation making the complaint, the other half into the county treasury of the county where such conviction shall be had.

SEC. 14. Within the meaning and for the purposes of this act, any person may and shall be held to practice physic or surgery within this State who shall within the limits thereof suggest, recommend or prescribe, direct or employ as a matter of business or for a fee for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the treatment, cure, relief, or palliation of any real or supposed ailment or disease of the mind or body, or for the treatment, cure, or relief of any wound, fracture, or other bodily injury or infirmity, or any deformity, or who shall, by prefixing to his or her name the designation "Doctor" or any abbreviation thereof, or by adding thereto the letters "M. D." or any similar designation, hold himself or herself out as a doctor of medicine or a surgeon, provided that nothing in this act shall prevent or prohibit any person, lawfully authorized by any government or incorporated medical college, from using his or her professional title for any purpose other than the solicitation or transaction of professional employment.

SEC. 15. Nothing in this act shall apply to commissioned medical officers of the United States Army or Navy, or of the United States Marine-Hospital Service, nor to any of the members of the house staff of any legally incorporated hospital during the term of their service as such, nor to any practice of dentistry, nor to any dentist in the practice of dentistry.

SEC. 16. So much of the acts, chapter seven hundred and forty-six of the laws of eighteen hundred and seventy-two, chapter five hundred and thirteen of the laws of eighteen hundred and eighty, chapter one hundred and eighty-six and chapter six hundred and seventy-nine of the laws of eighteen hundred and eighty-one, as is inconsistent with this act, and all acts and parts of acts inconsistent with this act, are hereby repealed.

SEC. 17. This act shall take effect immediately.

FETAL RHACHITIS, CRETINISM, AND STUNTED GROWTH.—Virchow, in a paper with this title, states ("Archiv. f. path. Anat. und Physiol. und f. klin. Med.") that during a prolonged residence on a certain mountain in the canton Glarus, Switzerland, where the inhabitants in general were well built and free from goitre, he frequently encountered individuals who combined with smallness of stature a species of facial and bodily malformation approaching more or less closely to the condition known as cretinism. The contrast thus produced was most strikingly displayed in the school-children of the district, especially the girls. Among these he noticed pupils fourteen or fifteen years old that were no taller than their companions of ten or eleven, from whom, however, they were readily distinguished by their squat, clumsy figures and awkward movements. Yet he never met with a case of actual cretinism in the neighborhood—not a single idiot or even remarkably weak-minded person could be found there.

In an earlier publication Virchow has shown that the form of face peculiar to cretins is the result of arrest of growth in the bones of the cranium. This occurrence he also proved to proceed in many instances from a premature synostosis of the basilar synchondroses; but it is a mistake to suppose that he sought to explain the phenomena of cretinism on the sole ground of such synostosis. On the contrary, he expressly states that this process does not take place in the case of every cretin, and also that the incompleteness of the basilar bones may be caused either by their premature union, or by a failure in the growth of the osseous structures themselves. Accordingly, Virchow ascribes the cretin-like physiognomies found among the above-mentioned mountaineers simply to arrested development—or, in other words, contraction—of the base of the skull, a condition which corresponds with their low stature and the shortness of their extremities. Individual cases of the kind are occasionally met with even among the author's countrymen, so that, in his opinion, it is very difficult to draw a precise line of demarcation between the dwarfishness of genuine cretins and that of isolated subjects who bear an external resemblance to those unfortunate. This difficulty is greatest when the abnormalities are of intra-

uterine origin, i. e., congenital. Such cases fall under the denomination of *fetal rhachitis*, a disease which can be brought into very close connection with cretinism. Curvature of the bones, however, is just as seldom met with among the people first spoken of as among real cretins. This is because, in the so-called fetal rhachitis, there takes place, not, as in cases of genuine "rickets," a free development of cartilage with delayed ossification, but rapid ossification with retarded growth of cartilage—the result of which, of course, is osseous sclerosis. At the base of the cranium this sclerosis is often accompanied by a premature ossification of the synchondroses, while, under its influence, every bone in the body is shortened.

After what Virchow has observed in other parts of the alpine region, e. g., in Salzburg and the Tyrol, he is inclined to believe, not only that a morbid process closely allied to the so-called fetal rhachitis, if not identical with it, occurs at different points throughout a wide extent of territory—sometimes associated and sometimes not with the cerebral disorders characteristic of cretinism—but that isolated cases of the same nature are met with far beyond the boundaries within which genuine cretinism is confined. He remarks that he may return to the subject at a future period; at present he merely wishes to direct the attention of other investigators to the relations spoken of.

THE INDICATIONS FOR TRACHEOTOMY IN LARYNGEAL TUBERCULOSIS.

—Dr. A. Gouguenheim ("Annales des maladies de l'oreille, du larynx, et des organes connexes," Nov., 1883), in a paper read before the Medical Congress at Rouen, summarizes his conclusions as follows:

1. Tracheotomy is an operation not often necessary in cases of laryngeal tuberculosis.
2. There are, however, certain forms of this disease in which it is imperatively required.
3. Thus, in *acute phthisis*, rapidly advancing caries of the arytenoid cartilages may give rise to fatal paroxysms of suffocation, although, in most cases, death occurs previously to this event.
4. In *chronic phthisis*, tracheotomy is called for by the following conditions:
 - (a) Caries involving the whole of the cricoid and thyroid cartilages, in which case the operation may not only save the patient at the time, but prolong his life for a considerable period.
 - (b) Tuberculous infiltration of the mucous membrane of the vestibule and superior laryngeal ligaments, forming a tumor which obstructs the cavity of the larynx. Here again tracheotomy may give the patient a new lease of life.
 - (c) Infiltration and enormous thickening of the vocal cords.
 - (d) Immobility and mutual approximation of the vocal cords, almost completely closing the glottis, with paralysis of the dilator muscles, or permanent spasm of the abductors. (In the last two cases the operation affords only temporary relief, owing to the advanced stage of the accompanying pulmonary lesions.)

FRACTURES AND POLICEMEN'S CLUBS.—The "Medical Times and Gazette" (January 26, 1884) reports the case of a woman in Dublin whose broken leg was temporarily dressed by a police sergeant who had been trained under the St. John Ambulance Society. He constructed a splint out of two batons and his duty bands, and removed her to the hospital. The "intelligence" which stands behind and directs the use of the club in the hands of a New York policeman is usually applied to breaking rather than setting bones.

THE PHYSIOLOGICAL ACTION OF COFFEE.—According to the result of experiments recently made by Messrs. Couty and Guimaraes to ascertain the precise physiological action of coffee, that beverage is not a preventer of tissue-waste. The maintenance of nutrition is, no doubt, improved by its consumption, as Gubler asserted, but simply because it involves an increased assimilation of nitrogenous food through improving the appetite, when not taken in excess, and thereby encouraging its consumer to take nutritious food.—*British Medical Journal*.

HOSPITAL CHAPLAINS IN PARIS.—The "Lancet" (January 6, 1884) states that the abolition of chaplaincies at the Paris hospitals has excited the indignation of the archbishop of the city, who advises the faithful not to send the sick to the hospitals, but to organize a system whereby they may be treated at home.

Original Communications.

ON

NEUBER'S DEEP CANALIZATION

IN

AMPUTATION OF THE FEMALE BREAST.*

By ARPAD G. GERSTER, M. D.,

SURGEON TO THE POLYCLINIC AND TO THE GERMAN AND MT. SINAI HOSPITALS, NEW YORK.

THE essence of modern wound treatment centers in absolute rest of the wound. The efforts of progressive minds in surgery all bear the character of an unmistakable tendency toward securing such conditions in and about wounds as will suffice, without further interference, to insure primary or secondary union under the dressing applied on the operating-table.

To Neuber, of Kiel, belongs the honor of having first demonstrated the possibility and entire safety of such endeavors.

Among his several important innovations, the idea of what he calls "canalization" seems to be pregnant with a great deal of vitality. It deserves extended trial in the varying conditions which the general surgeon has to deal with.

Canalization may be termed a process by which good drainage is afforded to a wound, shallow or deep, without the use of drainage-tubes. It is divided into two kinds: shallow and deep canalization.

Shallow canalization is employed for draining extensive subcutaneous cavities situated beneath large skin-flaps, such as occur after amputation of the breast or the removal of large tumors of the back. It is accomplished by the aid of a punch devised by Neuber, of Kiel, a tool very similar to the common leather punch, and differing from it only in the shape of the hole made by it, which is not circular but elliptic, and measures two thirds of a centimetre by one centimetre in diameter. In an emergency a common leather punch will do very well, as I have found in one case by experience.

The mode of applying the punch is to cut as many holes out of the skin along the most dependent portion of the wound as will suffice to carry away easily all the secretions. If the wound be very extensive, it is well to scatter about a number of punch-holes over the entire skin-flap covering the wound. The punch makes a clean-cut orifice through the skin proper, out of which, however, small portions of subcutaneous fat are apt to protrude. These must be seized with forceps and removed with curved scissors.

The additional lesion caused by the punch is trifling, the holes granulate over readily, and, as a rule, are closed by the time the dressings are removed. Experience has taught that the drainage produced by these punch-holes is excellent.

Deep canalization is intended to afford drainage to the secretions accumulating in the recesses of a deep wound, as,

for instance, in the neck or the axilla. Here the injury is not merely subcutaneous, but intermuscular planes are opened up, and the dangers of retention and suppuration are far more grave than in shallow wounds, however extensive.

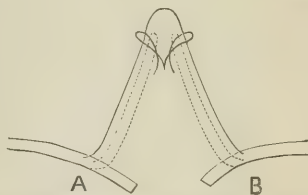
These deep-reaching wounds have formed, and in many cases will ever form, the true domain of the usefulness of the drainage-tube.

In the invention of Neuber's absorbable drainage-tubes an important step forward was made in the treatment of fresh wounds. These tubes are made of ox-bone, and, when decalcified and disinfected, behave in a wound exactly as catgut does—namely, in the course of from five to eight days they dissolve and become absorbed.

Thus the act of eliminating the drainage-tube, formerly requiring a removal of the dressings, goes on spontaneously without external interference.

Even an absorbable drainage-tube, however, is at best a necessary evil, and every safe simplification of the operating apparatus must be looked upon as true progress. Neuber's inventive head has again furnished a solution to the question: "Is drainage of deep subfascial wounds possible without the use of tubes?"

He advises, in suitable cases, to detach the skin on both sides of a deep wound so as to make it movable, then to turn it into the bottom of the cavity and fasten it there with a sufficient number of catgut sutures. In this manner the greatest portion of the cavity becomes lined with skin, and it can heal by adhesion, the funnel of cutis serving at the same time as an unobstructible channel for draining the bottom of the cavity. This is called *deep canalization*.



A and B are the detached skin flaps, the dotted lines showing their arrangement and fixation in the bottom of the cavity by sutures.

The results attained in Professor Esmarch's clinic in amputation of the female breast can hardly be surpassed. Over forty cases were treated with absorbable drainage-tubes, and healed throughout by first intention. Yet it has seemed to me that I should be justified in attempting to reach the same result in a simpler manner by utilizing Neuber's idea of deep canalization. It is an accepted fact that, together with the breast, the contents of the axillary cavity ought to be invariably removed in cancer, to diminish the possibility of relapse. This important addition to the operation is most easily accomplished by adhering to Professor Volkmann's directions. He advises to incise the skin and fascia parallel to the edge of the latissimus dorsi, then to expose this muscle, to lay the knife aside, and to proceed by blunt dissection with a pair of curved scissors until the axillary vein is exposed. Having done this, the greatest

* Read before the Medical Society of the State of New York at the annual meeting held at Albany, February 5, 6, and 7, 1884.

danger of the operation—that is, injury to this vein—can be readily avoided, and removal of the axillary fat and the inclosed lymphatic glands in one mass becomes a comparatively easy task.

The creating of so large a cavity as the preceding step will necessitate has one great drawback. If supuration be not avoided, a large mass of granulation, hence cicatricial tissue, will necessarily be produced, which, being in very close relation to the vein and brachial plexus, is apt to cause œdema of the arm, together with acute neuralgic pains radiating along the extremity. Furthermore, a massive cicatrix will mechanically impede abduction of the arm for a very long time.

Therefore it is obvious that to prevent the formation of a massive cicatrix in the axillary cavity must have many practical advantages, and that the object is worthy of the surgeon's best attention.

The use of the absorbable bone drainage-tube will accomplish all that is desired; but as yet the procuring of this commodity is well-nigh impossible to the general practitioner, and, therefore, I have thought it admissible to try Neuber's idea of deep canalization as adapted to the axillary cavity. The procedure is easy and simple, and does not necessitate the use of special instruments. The requisites besides the ordinary apparatus are a punch and some stout catgut.

The experiment did not necessitate any additional risk to the patient, and was accordingly made in three successive cases, the histories of which I have the pleasure of presenting here:

CASE I.—Miss C. H., a German store-keeper, thirty-two years old, presented a somewhat anæmic, otherwise well-nourished, exterior. For about one year she had noticed an irregular nodosity in her left breast, which had grown steadily to the size of a fist. On palpation, an irregular, movable, and not very hard swelling of the breast gland was found; the nipple was not retracted, the skin was partially adherent, the axillary glands were intumescent. Latterly, shooting pains had inaugurated a rapid increase in the size of the tumor. Amputation of the entire breast and evacuation of the contents of the axillary cavity were performed November 30, 1883. The wound was irrigated with a 1-to-1,000 solution of corrosive sublimate, and four holes were punched into the skin on both sides of the wound. The anterior portion of it was united with two continuous catgut sutures: a deep one of stout catgut to approach, and a more superficial one of thin catgut to bring about actual contact of the edges of the wound. The edges of the axillary part of the wound were dissected up for about an inch on both sides; then the anterior skin-flap was transfixed with a stout catgut suture, and, being turned well into the apex of the armpit, was sewed to the posterior aspect of the pectoralis minor muscle. The posterior flap was likewise sutured to the anterior aspect of the latissimus dorsi. In this manner the axillary cavity was transformed into a cone lined with skin, at the apex of which a small portion of the deepest part of the axilla remained uncovered. After this a strip of gauze dusted with iodoform was laid on the line of sutures, and a large pad of sublimated gauze was snugly bandaged on to the shoulder and thorax. The arm was placed in a sling. About fifteen catgut ligatures, prepared in oil of juniper, were applied to spurting vessels. The next day the patient's temperature, taken in the vagina, rose to 101° F., but fell to the normal standard on the day following, to remain

there permanently. Solid food was given, after an evacuation of the bowels, on the fourth day. The patient left the bed on the eighth day, and could not be induced not to use the arm of the affected side from the eleventh day on. A fortnight after the operation the first dressing was removed, and the entire wound was found to be healed by the first intention in the literal sense of the word. Seventeen days after the operation I found my patient selling goods to her customers, and the motions of the left arm, especially abduction, remarkably unimpeded. The tumor was found, on microscopical examination, to be an adeno-sarcoma containing a large number of miliary cysts.

CASE II.—Mrs. E. W., thirty-seven years of age, married, had had ten children, of which the youngest was six months old; had not nursed any of them, and had never had an inflamed breast. She was extremely lean and emaciated, and had missed her courses for the four months preceding. Three months before I saw her a small, very hard, round node had made its appearance in the inner lower quadrant of her left breast, and had attained the size of a large English walnut. The glands of the corresponding armpit could not be made out clearly. Except where the tumor lay, the flat, lean breast gland could be readily felt under the shriveled skin. I expected an easy operation, but, on performing it (December 17, 1883), was disappointed by meeting with an unusual amount of arterial hæmorrhage, requiring redoubled attention on account of the ill-nourished state of the patient. Forty catgut ligatures had to be applied to the breast wound proper. The axillary fascia being cut into, a number of small, infiltrated glands were felt close to the axillary vein, and were easily removed with the surrounding fat in one mass. Punch-holes, sutures, and dressings were applied exactly as in the foregoing case, the patient was brought to bed, and her collapsed condition was attended to in the usual manner. On December 18th her temperature rose to 100·5° F., and she had rallied nicely. For the first night she had received one eighth of a grain of morphia, and the following day had some difficulty in passing urine. December 19th a large number of fibrinous, cast-like masses were passed *per urethram* with much pain, and were followed by the evacuation of bloody-tinged urine. No catheterism having been practiced, the causation of this croupous cystitis remained a mystery. The thermometer recorded 101° F. on December 20th; on December 21st and from this on, 99·5° F. The bladder trouble soon subsided, especially after December 24th, when she left her bed. Two weeks after the operation the first dressing was removed, and the wound was found to be healed throughout. A few drops of pus escaped from one stitch on pressure. The cicatrix, therefore, was covered with a strip of iodoformized vaseline. Her appetite being excellent, she had recovered sufficient strength to attend to her household duties from the twentieth day on after the operation. Subsequent examination has shown that the woman was four months pregnant at the time of the operation.

In this case also the freedom of the motions of the arm on the affected side is very noticeable. The tumor was found to be a tubular form of adeno-carcinoma (Billroth's nomenclature).

CASE III.—Mrs. M. W., sixty-four years of age, of a robust physique, had had three children, whom she had nursed herself, during which time she repeatedly had sore nipples. About a year ago she sustained a bruise of the left breast, followed by a painful swelling, which had never subsided. For the past three months the breast had been growing much larger. I found a well-characterized scirrhus breast, with deep retraction of the nipple, and extensive infiltration of the axillary

glands. Removal of the entire breast and evacuation of the axilla were practiced at the German Hospital on January 5, 1884, the latter part of the operation requiring very extensive and careful dissection. The punch and sutures were applied in the above-described manner, the dressings in this case consisting of a smaller bag filled with sawdust laid on the wound, and this covered over with another larger pillow filled with "excelsior" or fine shavings, both this and the sawdust having previously been soaked in a 1-to-500 watery solution of corrosive sublimate. I here present to you these dressings, removed on the twenty-first day after the operation. The small amount of soiling by the secretions is remarkable, and will commend itself to everybody. The wound was found healed by first intention, except a small granulating patch in the bottom of the axilla. The diagnosis of scirrhus was confirmed by the microscopical examination of the tumor. This patient had a normal temperature throughout, and also sat up out of bed on the ninth day after the operation. She has attained considerable freedom of motion of the affected arm.

The limited experience gathered in the foregoing cases seems to justify the assumption that, where Neuber's bone drainage-tubes can not be procured, primary union of the entire wound made at a normal amputation of the female breast can, by the employment of deep canalization, nevertheless be attempted and accomplished under one dressing.

THE ESTABLISHMENT OF HOSPITALS IN SMALL CITIES.*

By EDWARD H. PARKER, A. M., M. D.,

POUGHKEEPSIE, N. Y.

It is now thirteen years since half a dozen gentlemen, who had met socially, were discussing the needs of Poughkeepsie, the city in which they resided, and it was agreed that the most urgent demand was for a hospital. The almshouse was the only institution to which persons accidentally injured, or taken ill suddenly, could be sent. As many who were not paupers were liable to be so afflicted, but a small portion of those needing care were thus provided for. It was therefore determined to establish a hospital. This paper is written in the hope that it may encourage others to establish similar institutions in small cities by showing them how much they can accomplish; what their probable expenses will be; how they can be managed; and how they can avoid some of the difficulties with which we had to contend.

The population of Poughkeepsie is about 20,000, and one of the first questions was, How large a hospital does such a population require? This problem was complicated by the fact that it might reasonably be expected that the neighboring portions of Dutchess and Ulster Counties would furnish patients needing the care of such an institution. Besides this, we had no basis on which to estimate the probable demands which would be made by accidents occurring on the railroads in the county and on the Hudson River. Our conclusion was that we could not tell how much room would be needed. However, having determined to

make a beginning, a small frame house was rented, in which seven patients could be received. A charter, under the general act for the incorporation of charitable institutions, was obtained in March, 1871, with the title of St. Barnabas Hospital, and we were ready to receive patients on the 17th of May in the same year. Since that time the hospital has been carried on continuously, thus completing more than twelve years of service. In 1873 a brick building was bought for \$5,200, and the patients were transferred to it in October of the same year. Inasmuch as the purchase was made complete, no mortgage or other incumbrance existing upon it, we have since been saved the item of rent, although necessary repairs and, for a time, taxes have had to be met by the corporation. This course should always be pursued when it is practicable, for otherwise the caprices or necessities of landlords will make the very existence of the institution uncertain, while a mortgage seems to vexationously the funds contributed for the benefit of patients.

One thing surprised us somewhat at this time. As soon as it was known that the trustees of the hospital were looking at premises with the idea of purchasing them for that institution, the whole neighborhood was stirred up to prevent the purchase. The idea seemed to be that a hospital must be a very undesirable neighbor; why, I never could learn, unless it was that a constant procession of mangled persons to the building and as constant a succession of funerals from it were anticipated. The negotiations for the purchase of the building had to be kept almost secret, and, if they had been known, we have reason to believe attempts would have been made to prevent the completion of the bargain. For more than ten years we have occupied these premises, and all opposition to the hospital has disappeared. I am not certain, however, that the same difficulty would not again arise if it were necessary for us to change its location. In the building now occupied as the hospital the number of patients easily accommodated is thirteen, but, if it were necessary, we could put up six more beds by utilizing rooms which are ordinarily appropriated to other uses. We have never been obliged to put up more than two extra beds. It is also our general rule to keep one bed vacant, so that we may be able to receive any one who has been accidentally injured. Such persons are received into the hospital immediately on being brought to it. It is expected that in all other cases application for admission shall be made to the matron of the institution, and, if there is a vacancy, the applicant is visited by the physician or surgeon on duty, who decides whether or not the case is a proper one for admission. If his decision is favorable, one of the trustees signs the permit for admission, it resting with him to determine whether or not any payment is to be made for the patient, and, if so, how much. This routine is sometimes inconvenient and is departed from, but the wisdom of the general rule is very apparent. As before said, injured persons can be brought to the hospital immediately without a permit; for all other applicants there is abundant time for the above-described routine, and it is necessary to protect the institution, which might otherwise be filled with patients for whom it was not intended. As is the case with other charitable institutions, the attempt is sometimes made to saddle

* Read before the Medical Society of the State of New York at its seventy-eighth annual meeting, held at Albany, February 5, 6, and 7, 1884.

us with undesirable persons, or to find comfortable quarters for others for a season. It is in winter that we have to be especially on the lookout for the latter class. The hospital is intended to be for the benefit of persons suffering from acute non-contagious diseases, or requiring surgical treatment. Still the rule against others is not an iron one, and we almost always have one or more cases which would properly be excluded by it. Sometimes, when crowded by cases of acute disease, or by accidents, it has been necessary to insist that chronic cases should be removed by their friends. Occasionally this seems rather hard, but full explanations soon satisfy all parties of its necessity.

The corporate powers of the hospital are vested in nine trustees, who have the power of filling vacancies, with the exception that the rectors of the three Episcopal churches are *ex-officio* members of the board. Two laymen are elected from each parish. The easy working of so small an institution requires a small board of trustees, increase in their number increasing the chances of disagreements and divisions.

A board of lady managers, fifteen in number, appointed by the trustees, look after the general condition of the various supplies, see that the rooms are neatly kept, and, from funds raised by themselves from their own donations and fines for non-attendance at their meetings, supplement little luxuries and conveniences which, although they may not be absolutely necessary, add very much to the comfort of the patients. A matron superintends the hospital, selects her own servants, and with them does the nursing. A male nurse, who is expected to make himself generally useful, is constantly employed.

The medical staff consists of four physicians and four surgeons, who are appointed by the trustees, though, when vacancies have occurred, the nominations to fill them have been made by the staff. This seems to be the wisest course, to avoid the introduction of discordant elements. It may be worth while to say that there has never been any jar among the medical men, but always the most complete harmony. No medical officer is resident at the hospital. Visits are made by the physicians and surgeons regularly, and, in cases of emergency, at any time of day or night, as may be necessary. The surgeons have sometimes had occasion to pass a good share of the night at the hospital, but the most exacting demands have been as promptly met as in private practice. The surgeon on duty operates, or directs the treatment of the patient after consultation, if necessary, as to the course to be pursued. In case of emergency or of the detention of the surgeon on duty, either member of the staff, as may be most convenient, acts for him.

The term of service is two months only, in order that the season of the year in which each serves may be gradually rotated. Three months' service would always give to one the hottest and to another the coldest part of the year. One physician or one surgeon goes out at the end of each month.

No resident pharmacist is employed, nor are any drugs kept on hand at the hospital, excepting anesthetics and such medicines as would ordinarily be required in so large a family—say quinine, castor-oil, Dover's powder, etc. These

are dispensed by the matron on the direction of the medical attendant. Prescriptions are written for each patient exactly as they would be in private practice, and a duplicate is kept at the hospital. Arrangements are made with a druggist to put up these prescriptions at a wholesale price. The advantages obtained by this method are, first, that of economy, and, second, that we avoid the temptation to substitute something which is on hand for what is really needed. How economical this method is can be judged from the fact that our bills for drugs (excluding alcoholic stimulants) for the last year amounted to only \$118 for seventy patients treated for 2,290 days. This was only eight dollars more than we paid for milk during the same time. And yet no necessary expense for medicines is spared.

In this connection it may be worth while to say that for a year the experiment of opening a dispensary in a more central part of the city was thoroughly tried. It was found that the persons who really needed such help were not in sufficient numbers to justify us in incurring so great an additional expense and adding so much to the task of the physicians. As usual, there was a constant attempt to obtain free advice and medicines by those who could afford to pay for both.

The number of patients treated in twelve years is 734. During the last year 70 were treated, and the whole number of days in the hospital was 2,290 for the year, an average of a little less than 33 days for each patient. The construction of the water and sewer systems of the city during this time has given us more than the average number of accidental injuries to treat, while two years ago the building of the West Shore Railroad threatened at one time to swamp us. As is the case with all hospitals receiving surgical accidents, patients are not infrequently brought in when almost moribund, swelling the percentage of deaths. In the twelve years the number of deaths in the hospital was 77; the number discharged recovered is 510; of improved, 103.

The diseases and operations have presented the ordinary varieties, which it is not worth while here to recapitulate. Two ovariectomies, one double and one single, have been done by the surgeons of the hospital, both patients making good recoveries.

As to the important matter of expense, I should say that, inasmuch as all our income is from donations, it has been the constant effort of the trustees to be as economical as possible, consistently with the best interests of the patients. No diet-table is arranged, and I do not think any is necessary in so small an institution. No general table is kept. We tried it, and it did not work well. Each patient has a portion sent to him in the ward, convalescents as well as those who are very ill. The diet of each can thus be varied as may be necessary, and the possibility of regulating the quantity prevents a surfeit. While no especial diet is arranged for a particular day of the week, the matron takes good care to furnish a desirable variety. The fact that when the hospital is full the whole number of patients is not greater than the number in a single ward of large hospitals makes this course entirely practicable—provided that the matron understands how to do it. Complaints of the

diet are rarely made by the patients. To make an estimate of the cost of these small hospitals, I have compared with the last report of St. Barnabas Hospital the last report of the Board of Managers of the Auburn City Hospital and the last report of the Board of Trustees of the Highland Hospital in the town of Fishkill, in Dutchess County. During the year covered by these reports, the Highland Hospital treated 28 patients at a cost of \$1,118, the Auburn City Hospital treated 60 patients at a cost of \$2,185, and St. Barnabas Hospital treated 70 patients at a cost of \$2,182. The expense *per capita* was, for the Highland Hospital, \$39.50; for Auburn, \$36.25; and for St. Barnabas, \$31.10. The first is a little higher than the average expense at the Highland Hospital, the two preceding years giving, respectively, \$36 and \$37, while the figures for our hospital are a little lower than they have sometimes been. My opinion is that it is fair to say that the average cost for each patient is \$35 a year. The number of beds in the other institutions is not given in the reports, but 13 beds in our hospital, costing last year \$2,182, give an average of \$168 a bed; or, if we call it 12 beds, the average is almost \$182. I think it is a fair estimate that for such institutions each bed will cost about \$200.

I have said that the income of our hospital is from donations. For a few years past the Board of Supervisors of the county have given the hospital from \$300 to \$500 a year, which may be reckoned either as a donation, or as payment for services rendered. Besides this, a small amount is paid by some of the patients, or their friends for them. Six dollars a week is the highest charge made, but if they can pay only one dollar a week it is taken. Not only does the hospital need the money, but it is better in every way that the patient and his friends should not feel that they are soliciting charity like paupers, if it can be avoided. These sums are, of course, reckoned in our income. The surgeons use their own instruments and appliances in treating the hospital patients, which, of course, lessens the expenses to the institution. In fact, when special instruments are needed which we do not happen to have, we buy them ourselves.

It may have been observed that the trustees of the hospital are of one religious body. They are Episcopalians. Without a word of explanation, it might be thought that the institution is used for proselyting, which is not at all the case. Evening prayer is read at the hospital every Sunday afternoon by a clergyman or lay-reader. The patients are entirely at liberty to attend or not, as they prefer. But it was from the first determined that all the patients, especially those who were approaching their end, should be placed under the care of ministers of their own religious preference. The trustees were not certain that this could be done if a variety of beliefs were represented in the board. We knew that we could do it. Accordingly, we give perfect control in religious matters for each patient to some minister of his belief. The Roman Catholic priest has as complete access to his parishioner as he could have in a hospital under the control of the Sisters of Charity. So it is with all the Protestant denominations, and so it would be with the rabbi if we had an Israelite in the hospital. We have thus avoided difficulties which have been serious in some

hospitals, and are at the same time spared the pain of seeing people die with as little spiritual direction as if they were cattle. The result has been to disarm all hostile criticism, and the hospital is to-day our most popular charity. Roman Catholics and Protestants of all shades alike contribute cheerfully to its support.

Hospitalism we do not have. The great abundance of pure, fresh air permits us to place more beds in our little wards than would be justified by the estimate for needed air-space made for large hospitals in crowded neighborhoods.

Does such a hospital pay for the trouble of carrying it on? I say yes, decidedly. It is something to have been of use to more than seven hundred persons in twelve years, and to be certain that most of them have been restored to health and usefulness by our care of them. I confess that I have been disappointed at the small amount of pathological and other strictly scientific study obtained from the hospital. It does not at all compare in this respect in its proportion to that of large hospitals, but I hope that we shall hereafter be able to do better.

Is this small number of beds sufficient for the demands of a city of the size of Poughkeepsie? Again I say yes, when limited to surgical and acute non-contagious diseases. A larger hospital could be filled, and it is probable that a larger one will at some time be built in our city. But this supplies the needs of our city and its neighborhood. The knowledge of this fact will, I trust, remove a common opinion that, even in small cities, a much greater provision must be made if a hospital is to be established—an opinion which too often hinders those who would otherwise undertake to found them.

THE THERAPEUTICS OF THE FUTURE.*

By SAMUEL S. WALLIAN, A. M., M. D.,

BLOOMINGDALE, N. Y.

THE "art divine of killing pain and patients"—so mercilessly satirized by Byron and so universally traduced by some scientific and many pseudo-scientific writers of all ages, even by some of its own accomplished and brilliant votaries, as witness Harvard's medico-literary eccentricity, the "Autocrat of the Breakfast Table"—is yet far from compelling recognition as a science. This, however reluctantly, we must all frankly admit. It may be a humiliating confession, especially to the younger and more enthusiastic in the profession, who have allowed themselves to dwell on exaggerated pictures of assumed "medical progress"; but our best and most accomplished representatives are still painfully toiling, if not actually in the dark, yet in a kind of scientific twilight. In crowded hospital wards and dingy chemical laboratories they are patiently and perseveringly observing and recording one-sided facts, half-facts, and glimpses of glimmerings of facts; slowly accumulating data on which to build theories and out of which to evolve hypotheses; striving to arrange incoherent fragments, and to harmonize incongruous and inexplicable phenomena; skim-

* Read by title before the Medical Association of Northern New York, at Malone, October 2, 1883.

ming bubbles from a fountain whose purest waters are evidently unfathomable depths below.

Still are we balked by the phenomena of a simple fever; in doubt whether typhoid, diphtheria, cholera, tuberculosis are contagious, infectious, epidemic, hereditary, zymotic, or what not; unsettled as to the nature of eczema; is it simply an acute or chronic local or general dermatitis? is it a constitutional taint allied to lithiasis or rheumatism, or does it really hinge on the neuroses?

How diffidently and how differently we discourse of yellow fever, of the nature of miasms, the laws of contagium! And how stupidly helpless are we, as yet, in the face of anthrax and angina pectoris, of Bright's disease and carcinoma, diabetes and diphtheria, exophthalmic goitre, hydrophobia, and malignant pustule!

Thus the list of vital topics—frightfully vital because frightfully fatal—of which we know next to nothing, might be extended through the entire alphabet.

Painfully and almost timidly we plod on, studying, as best we can with the meager and unsatisfactory light and facilities yet available, the minute and multiple phenomena of a something, or the absence of something, we call *disease*; noting and analyzing its thermometry; charting its sphymology; classifying and limiting its stages and periods; estimating its precursory and prevailing signs; locating its anatomical lesions and forecasting its prognosis; speculating with astute and labored display of subtle analysis and ingenious hypothesis—another name for scientific guessing—yet in the end virtually and more or less meekly admitting that we can scarcely do more when we do our best, or our worst, than to modify and, in some instances, slightly abridge its fixed and invariable course! What un-failing refuges from our admitted ignorance are expectancy and self-limitation! It is only our younger, less-experienced and over-sanguine members who feel such zealous and unhesitant confidence in their own skill and in the definite and mathematically estimable potency of remedies.

Taking a little liberty with the poet:

“ . . . oh, how sore
The fond romance of *twenty-two*
Is parodied ere *fifty-four*!”

Humiliating confessions, to be sure, but confession is urged as a moral prolylactic, and we who live, move, and have our being by listening to the confessions—and respirations—of others should not hesitate, occasionally, to be honest with ourselves and science by seeking the confessional.

We have our medical and surgical hobbies and our periodical crazes. Fashions come and go as with milliners and haberdashers. Mercury, the bromides, chloral hydrate, carbo-lic and salicylic acids, alcohol, quinine, iron, electricity, Listerism, and scores of others, have all had a more or less brilliant “season.” Most of them have now been superseded or assigned to secondary rank in the changing repertoires.

The craze of the day is the somewhat hypothetical *germ*. And still the experimenters quarrel among themselves and are asking, “Is it, or is it not?” and “Whom shall we crown king, Koch or Spina?” “Shall we label these demonstrated

forms *rod-bacteria*, or only *fat crystals* and coagulated fibrin?” “Is the *Bacillus tuberculosis* king of the walk, and destined ere long to exterminate the race?” Do we for ever walk with our heads in a cloud of poisonous flies, our lungs permeated, at every inspiration, with deadly microspores; and is the wretched meat and drink by which we manage to eke out a brief, parasite-pestered existence, thick-planted with ova and embryotic germs, only waiting for a nidus in which to develop, to revel, multiply, and destroy?

Or is the profession suffering from epidemic and contagious microphobia, a possible, progressive, antero-posterior, multilocular, and disseminated sclerosis of the bulbus rha-chidicus?

Under the inexorable law that the fittest survive, shall bacteria be enthroned the multifold but real Rex Magnus, whose fiat none can evade or effectually oppose? Then we are outgenerated and actually outlived, even while yet alive, by the latest-discovered and lowest-organized forms of animal (?) life.

Rather, shall we not be, eventually and in good time, compelled to assume and admit that the vital principle, as manifested in the higher organized forms, is under all circumstances and for ever a law unto itself; that, by no possible edict or accident in nature, on the earth beneath or in the heavens above, can a lower supplant and supersede a higher organization; and that polyonomous and polymorphic bacteria are but primary links in the endless chain of vital metamorphosis, the carrion birds that ever shadow the carcass even long before *rigor mortis* has asserted its rugged and mysterious presence; inert germs which—omnipresent—can not warm to life or have their miserable being except as a natural and inevitable part of the processes of degeneration, decay, and disintegration?

Are we “scientifically” but blindly wasting time, money, material, and all too valuable lives in the minute elucidation of non-essentials—the modes of germ-propagation, the form and size of micro-organisms, the nature of plastide, the scarcely distinguishable tints of spectroscopy? Frantic to extend the already next to interminable list of “remedies,” how few of us pause to realize that we do not yet pretend to know by what law any material element can be made to act the part of a direct and absolute “remedy”!

Perhaps the ancients were nearer to truth because they were nearer to nature. *Earth, air, fire, and water*. We have no more than these, turn where we will. To fill the pages of our ponderous dispensatories we have ransacked earth, air, and water; breezy forest, blooming meadow, and dank morass; teeming valley and arid desert, mountain heights, and deepest mines; yet the whole voluminous repertory is but a series of reiterations of that very limited round of chemic elements whose symbols are all expressed by half a dozen letters of the alphabet.

Given the two or three thousand, more or less, “remedies” of the books, a crucible and white heat, what remains? Something is vaporized—air and water; some ashes are left—these are earth. This much we know through our crude and bungling system of analysis; of their occult law of synthesis—origin, growth, reproduction—we

know absolutely nothing. Elated with the seeming results of our physiologic experiments, we say, in a confident sort of way, that our "remedies" have various *actions*, as physiologic action, pathologic action, toxic action; whereas we ought to know, and it is charitable to assume that we really do know, that the term is a palpable misnomer, a mere linguistic habit which nobody stops to question, simply because it has so long been chronic—has such venerable and ancient authorities among its ancestry.

This may be our very primary block of stumbling—the original and unpardonable sin of science. Given a false premise, all deductions are awry. It makes a wide difference whether the mountain came to Mahomet, or Mahomet went to the mountain. Parrot-like we go on repeating the thoughtless and impossible fables: "*The sun rises*," "*the moon wanes*," "*planets and the earth revolve*"—"remedies *act*!"

Reverting to first principles, *the vital forces do all the acting*. All passive materials—food, drugs, "remedies"—succumb to this; are inevitably and invariably in the *objective*; can never, by any possibility, assume the *subjective*. Barring the fixed and law-limited "action" of the mechanical forces, and the definite but only half-understood laws of chemical affinity, this assertion becomes a truism. When we attempt to reason otherwise, with however formidable array of erudition and corroboratory experimentation, we are sopping our intellects with sophistry.

This presumed and assumed "action of remedies" is the most ancient and universally honored, and at the same time most fatal to scientific progress, of all our chronic delusions. Does croton-oil or cantharides actually blister? If so, let us "blister" the cuticle of the cadaver! But for the set phrases of the books, to which we have so long given passive assent that we have come to consider them established facts, *a priori*, it would be evident enough that the raised epidermis and the exuded serum are the defenses thrown up against an intruder—the *expressed resistance of the vital forces*. Nothing more, nothing less. How does Epsom "act"? It is simply expelled *via* the alimentary canal, well diluted with gastric and intestinal secretions, and with whatever excretions and accumulations may be encountered *en route* to render it less obnoxious, nature weeping slimy tears in very humiliation and disgust at contact with the nauseous "remedy"! Unorganized matter can not possess volition; it is inherently passive and inert. The tides do not "rise"; they are pulled up by the moon. Waves do not "dash"; they are themselves dashed by the wind; and the wind in turn is but a passive plaything obeying the simple laws of barometry—gravitation.

But for the universal currency of the counter-fable it would seem to be inexcusably pedantic to cite so palpable an altruism; yet, doubtless, it will require another century of practical blundering, because of starting from a false premise, to thoroughly teach us this simple fact—a fact so simple, rational, and natural that any non-prejudiced thinker can teach it to himself with half an hour's untrammelled reasoning.

If there be one law of nature more fundamental and all-pervading than another, it is that *unorganized matter is the*

passive material with which and out of which vital force, acting through organized forms, accomplishes its results and builds its monuments. It grasps it, manipulates, rearranges, and recombines it, redistributes and rejects, but is *never subject to it*.

When we shall have practically and fully realized the force of this fundamental and inevitable law, this fact which underlies all material facts, as it applies to the study of medical science, then will the word medicine cease to stand as a synonym for mystery, and there will be no more prizes offered by learned bodies for the best essays on the "action of remedies."

Not that there will no more mystery, for the very nature of this same vital force is, as yet, and mayhap always will be, the profoundest mystery. Well may we stand aghast at the awful revenges wreaked by it—say in the contagium of variola, yellow fever, cholera; the loathsome ulcer of syphilis, the deadly virus of rabies; at the parting sigh it utters through the subtle ptomaines of the dead-house! These and a hundred other chemico-physiologic phenomena remain to belittle our pretensions and cure us of self-conceit.

In the coming medical practice it must needs be that *therapeutics* will have been largely superseded and always preceded by *prophylaxis*; and the therapeutic teachings of the future will doubtless more fully recognize that law which is ever aiding all our remedial endeavors—the *vis medicatrix nature*—without which our art would be poverty-stricken indeed. Abandoning superstition, whose wraith in one form or another still haunts us, our philosophy must revert more practically and more literally to the four elements, *earth, air, fire, and water*, and their direct derivatives, in their pristine simplicity.

The earth shall give us not merely its hoard of crude minerals, but their sublimated energies, subtle magnetisms, the *Od* force of the mystics; "high potencies" in every sense but that of the originator of the term. Not crude galvanic shocks evoked by acid corrosion of zinc and copper, gold and silver, but vitalized and dynamized currents so subjugated, tempered, and refined that they will blend with and supplement the living forces, vital currents, which energize and perpetuate every organized being. Nor will it be, as now, a matter of indifference what elements are used or what exciting media. Every material element, metal and metalloid, will have its specific and individual influence—magnetism (?)—province, so accurately analyzed and understood that each will have its demonstrated range of applicability, and there will no longer be taught the present inaccurate indifference as to whether the exciting and transmitting solution be potash or copper, ammonium or silver; or whether the current be constant or induced, primary or secondary, stable, labile, or static. Every element, whether solid, fluid, or gaseous, will have its particular, recognized, and clearly defined sphere, and will not be, as now too often, invoked to do duty alike in neuralgia and narcotism, paralysis and asphyxia, innervation and electrolysis.

To keep abreast with advances in other sciences we must have a practical and reliable *electro-pathoscope*, which, by a well-defined system of detected and recorded reflexes and

responses, the presence or absence of irritabilities—sensibilities, resistances—will render positive information, accurately and in minutest detail, as to the condition and needs of every remotest organ, structure, and viscus of the living body.

Thus shall we be enabled to substitute *actual knowledge* for the, at best, only probable and approximate intelligence we now glean through the stethoscope, the sphygmograph, the aspirator, and the microscope. Even the mysterious vital force itself will, perhaps, with all its manifold resistances and reactions, come to be accurately estimated in *volts* and *ohms* with as much facility as we now measure the power of a galvanic battery, a voltaic pile, or an induction coil. Nor is this chimerical when we appreciate what has been realized in the telephone and phonograph.

Again, the *air* must be made to give us, more perfectly than now, the breath of life. It must be amply supplied in its virgin purity to every human being, young and old, rich and poor; no longer robbed of its vital element nor loaded with noxious gases, floating germs, and impalpable emanations.

What can we do without and what can we not do with the elements of common air. We must have oxygen with every breath and drink it with every draught, move in it at every step. No potable liquid exists without oxygen as its essential element, and not for a moment can the blood be sustained without intimate contact with it. In short, as a physiologic agent it is essential and indispensable at every step of every vital process; nor is it less important or less omnipresent in therapeutics. Select important drugs from what source we will, are they not chiefly good or bad about in proportion as they combine or yield free oxygen? *Vide* the carbonates, chlorides, nitrates, and sulphates; is not their primary condition essentially that of an oxide, and are they all comparatively valueless until decomposed in the presence of the vital organism?

This is a field of inquiry which will bear extensive exploration at the hands of our physico-chemical investigators, and would doubtless yield more interesting and practical results than all the labored and endless analyses, isolations, and comparisons of alkaloids, glucosides, and proximate principles.

The ancients recognized but three ordeals of purification—*air*, *fire*, and *water*. Hence for criminals they erected the gibbet and exposed their bodies indefinitely to the winds of heaven, or they resorted to pyre and fagot, while their therapeutic reliance and universal means of physical purification was the bath. In each of these the potent factor is oxygen. Without it there could be neither air, nor fire, nor water. The first food of the infant at birth and the last gasped for by the departing patriarch is oxygen. We may abstain from ordinary and grosser means of physical sustenance for days and weeks with impunity; robbed of oxygen, we do not survive so many minutes. Tanner prolonged his fast from meat and bread, even to the period of the original deluge, without serious discomfort, but he constantly required and really subsisted on air and water—oxygen.

Thus this element presides alike over life and death, primary origin and ultimate destruction; at once a boon

and a bane, inestimable friend and relentless destroyer. Every vital process—construction, maintenance, repair, disintegration—is accomplished directly or indirectly through the agency of oxygen. Priestley would have been justified in naming it *zoogen*, since without it animal existence would have been an impossibility. Even the rocks and minerals of the earth's crust have no natural existence except in combination with it, some of them yet refusing to be dissociated from it, but requiring to be studied through their oxides. It is in every drop of blood that circulates, in the gastric fluids that digest, in the mucus that lubricates, in the very tears we weep. Remove it from water, and there would be no fountains, no flowing streams, no sounding seas, no fluids of any kind. Rob the air of it, the populous earth would become only a vast sepulchre, and the beds of the oceans would be transformed into fathomless abysses filled with irrespirable gases.

Dismissing these fairly startling but really superfluous speculations, it is high time we had practically realized, for we already theoretically admit, that this all-pervading and commonplace element can not be replaced, scarcely supplemented; that there is no known disinfectant or eliminator comparable with it; that disease-propagating germs can not withstand a free supply of it, but are soon robbed of their virulence or destroyed in its presence. The bacteria, vibrations, microspores—even the dreaded bacilli of tubercle (?)—shrink from contact with it and are rapidly robbed of their virulence—oxidized out of existence.*

The normal and only unobjectionable and universally efficient antiseptic is pure oxygen. With all our vision-straining and laboratory research, our ephemeral fashions of carbolic, boric, benzoic, and thymic acids—the latest mania being for bichloride of mercury, most dangerous of all, the very Moloch of our materia medica—to this must we come at last!

The future study of the much-vexed and much-agitated question of ventilation must resolve itself into an inquiry as to the best and most economical means for naturally procuring or artificially supplying more oxygen.

How easy to for ever banish from our crowded city institutions the dreaded ghoul of surgical erysipelas, septicæmia and hospital gangrene! The day will come, too, when the deadly upas which now flourishes in the basement, under the misleading name of "hot-air furnace," will be robbed of its baneful influence and effectually counteracted by an oxygen retort.

In *fire* is broached the whole comprehensive subject of temperature, including climatology, cookery, the warming of dwellings, public buildings, dispensaries, and hospitals, as well as the but half-understood thermometry of health and disease.

Who shall say it is wholly utopian to predict that one day we shall possess ourselves of convenient and accurate self-registering apparatus by which the general systemic, and also the local, regional, and internal temperatures of the diseased body will be carefully detected and periodically re-

* *Vide* Pasteur's conclusive experiments in chicken-cholera; and those of our own Professor Law in the cattle-plague and hog-cholera of this country. "Med. Record," June, 1881.

corded, so that the medical adviser need not thereafter be dependent on the careless manipulations and inaccurate reports of indifferent or incompetent attendants, nor limited to one or two observations per diem? Surely this ought to be possible in the not too far off future.

The subject of heat involves so much that is intimately associated with every vital process that it is very comprehensive, including the regulation of the warmth of the body, the form, size, situation, and plan of construction of dwellings, the kinds and use of fuels, the composition and make-up of fabrics used in wearing apparel, and thus the very fashion of the garments we wear.

Heat induces and hastens oxidation, and oxidation is the flexible synonym for fire. A certain range of temperature is a prerequisite in all physiologic, and one of the leading factors in most acute pathologic processes; and, after all, what is pathology, essentially, exactly, more or less, than disturbed or morbid physiology?

If it thus readily and naturally appears that *earth* means much more than the exhibition of a few mud-baths, as practiced by some eccentric Germans, or than the adoption of antiseptic dressings of desiccated and pulverized mold or clay for foul, phagedenic or sloughing wounds, as advocated by some very reputable American surgeons; or the aggregation of innumerable salts, the carbonates, chlorides, oxides, sulphides, lime, soda, potash and phosphorus, lead, mercury, silver, and zinc; the use of *air* signifies much more than the question of bare respiration; and that the word *fire* imports much that is not demonstrated in the lighting of a bundle of fagots—so the subject of *water* comprehends much that is not included in works on navigation.

Concerning the value of quinine and its congeners as antipyretics, the discussion still has two sides; but there is very little dispute as to the antipyretic potency of water; while not a few of our best practitioners, if compelled to choose between a bottle of quinine and a barrel of water to control a fever, would make no hesitant decision in favor of the latter!

Water joins with air in supplying us the elements of our daily bread. In earth, air, and water we find all needed material for organization, growth, and repair. In water we have the only universal solvent and vehicle. It is the one faultless medium of transmission, whether of heat, force, or electricity. It washes away our physical sins, directly or indirectly drives the major part of the vital as well as mechanical machinery of the world, and is equally essential with air in the genesis and maintenance of all vegetable and animal life. Nine tenths of every animal body is water. Deprive the tissues of their constituent water, they become parchment; wholly desiccated, they crumble to impalpable dust. These are homely facts—more would be glaringly superfluous—familiar to every tyro in physics, yet their import has all along, for ages, as it were, fallen on practically unheeding ears. Now and then, it is true, a Barker, a Bartholow, a Flint, or a Thomas recognizes the efficacy of cold sponging, the warm bath, or the hot douche. Hot water is coming to the front as the one efficient, universally applicable and universally safe hæmostatic. Formerly the ether spray or ice to the hypogastrium, or styptic injections,

for metrorrhagia; now the continuous, hot vaginal douche. Once, irritant mustard and the fly-blister, now the spongopilin, hot compress, or bran poultice, for acute inflammations. Formerly tonics, absorbents, and astringents for gastric catarrh; now free, regular, and systematic hot water drinking at stated intervals—virtually, the hot bath applied inside.

How very simple, neither “scientific nor mysterious, but utterly and undignifiedly natural”! Yet if the great army of malingersers, who yearly suffer real and imaginary horrors, whether from dyspepsia, hepatic engorgement, renal disorder, or tuberculosis, could be persuaded to adopt the regimen for a month, the results would astonish, perhaps convert, both patient and medical attendant.

R Aqua fervente, Oss. ad Oj.

Succi limonis vel tamarindorum, q. s.

Vel sodii bicarbonat., grs. x, p. r. n.

S. To be sipped slowly an hour and a half before each meal and at bedtime, daily, as hot as can be borne (140° to 160° F.), and to be continued for four or six months, the quantity to be increased or diminished as required to maintain a uniform, normal, or sub-normal specific gravity of the urine.

Evidently here is something more than a mere drink of hot water. Rationally analyzed, what can be expected from it?

1. Cleanses thoroughly the primæ viæ.
2. Increases downward peristalsis.
3. Dilutes and washes away all morbid, tenacious, andropy secretions, mucus, bile, pancreatic, duodenal, and intestinal secretions.
4. Relieves visceral congestions and spasm through the relaxing influence of *heat* and *moisture* applied *inside* the alimentary canal.
5. Promotes natural elimination through all the emunctories, renal, respiratory, cutaneous, and intestinal.
6. Removes from the disordered stomach and system the acid products of mal-assimilation and fermentation—acetic, butyric, hydrosulphuric, lactic, and saccharic acids, sulphides of ammonium, vegetations, and yeast.

Years ago, in the Pennsylvania Hospital, Da Costa “washed out” the stomachs of his worst dyspeptics, using a siphon and warm water, with flattering results; but this newer practice goes much farther, washing out (almost “boiling, sudsing, and rinsing”) every vascular organ in the whole body, cleansing the system, directly from os to anus, and indirectly from occiput to os calcis.

Add to the foregoing a rational system of repair, through a thoroughly nutritious and readily assimilable dietary, and, in chronic maladies, what results are impossible?

Let us prate no more about “alteratives” and “blood-purifiers.” Here is this simple water sprite which puts them all to shame.

Says a prominent professor in one of our foremost medical universities: “There is in every science a mythological part, which is handed down from generation to generation, whose disbelievers formerly were crucified, now are ostracized. Shall I tell you where the mythology of medicine is stored up? In the hand-books of *materia medica*, *allopathic*

as well as homœopathic. But do not think me a nihilist. If I believe that nine tenths of what is said of the virtue of drugs is myth, I am convinced that the last tenth is a blessing to mankind."

Realizing the truth of this admission and availing himself, to the fullest capacity, of all natural agencies, the coming therapist will be able to move medical mountains. Unawed by tradition, and thoroughly conscious that simplest truth is truest science, his profoundest study will be to determine the simplest processes by which to unload the clogged viscous, replenish wasted tissues and fluids, relieve overtasked organs, accelerate flagging efforts, moderate overactivity whenever present, and, in short, to do naturally and without jar all that can be done to keep this mysterious vital machinery free from unnecessary frictions, wastes, and injuries, until it shall have spent its allotted modicum of energy, untrammelled and unimpeded, and at last runs down like a once-wound timepiece which has no key!

Well, the world has moved, the world does move, and even the medical world must move, whether we will or no; and, while too many would-be reformers and enthusiasts unreasoningly rush into the ranks of the therapeutic nihilists and make of themselves mere iconoclasts, smashing right and left, with no purpose but to raise an ephemeral din, there certainly is a waiting field for an earnest and conscientious corps of sham-oclasts. And so, quoting the prophetic remark of an eminent and sensible English citizen, after witnessing the puerile pageantry of the last parliament-opening by the beloved but fussy old queen: "*I'm thinking what a jolly mess we shall make of all this (therapeutic) rubbish one of these days!*"

A NEW OBSTETRIC FORCEPS.

By WILLIAM D. SCHUYLER, M. D.

THE accompanying cut represents a newly devised obstetric forceps recently made at my suggestion by Messrs. George Tiemann & Co., of this city.

Its modeling, in part new, embodies points which I deem of practical advantage over those of any other long forceps. It comprises closely approximated shanks throughout their entire length; an upward sweep of the shanks close to their commencement, which curve I term perineal; a shortened cephalic curve for the blades on their anterior extremities; a well-marked pelvic curve; narrow blades antero-posteriorly, and shortened handles, which are bent upward.

The utility of having these curves more prominent than usual, or new, will be readily appreciated by considering the indications for which they were constructed.

The first general qualification of a forceps is that it shall be adequate to deliver with—namely, that the blades shall be properly formed to grasp the head and retain their hold, and that the instrument shall be sufficiently strong throughout to stand the required degree of traction to be exerted through it.

The second general qualification is that the forceps shall be so modeled that it will not act with unnecessary harshness upon or do injury to the mother's parts.

As all, or nearly all, forceps prove their competency as instruments of traction simply, the problem offered by the

first general requirement has for that reason not been difficult to solve. In view, however, of the many serious and frequent injuries which attend the use of these instruments, it evidently has not been a simple task to successfully meet the second requirement.

Considering the great practical value of the forceps, which may be justly regarded as the obstetrician's one or principal resource of potential aid, its proper conformation—in accordance with anatomical and physiological requirements, that its use may not be restricted while its injurious effects may be avoided—is an object worthy of most careful study.

As the site of the most frequent injuries resulting from the use of the forceps is at the vaginal outlet, and especially at the perineum, that portion of the instrument which bears most severely upon this region (in

our efforts to form a model that shall act non-injuriouly) should receive our first or principal attention.

That section of the instrument which comes into most severe contact with the vaginal outlet—that unnecessarily stretches it as a whole, or presses upon and severely stretches the perineal commissure—is its shank, near its junction with the blades. The indications to be followed in the construction of this portion of the shank are: (1) to avoid bilateral distension of the ostium as a whole, and (2) to avoid making pressure upon the perineal edge. In the model here offered the first indication has been met by bringing the shanks at once, at their very commencement, into apposition, while the second has been equally well met by giving to the closely applied shanks an upward bend or curving, by which the elevation of an inch above a base or straight line at its highest point is gained. This upward curve is accomplished without thereby altering the line of traction for the forceps, or in any way impairing its introduction or application, while the relief it affords to the perineal edge is very great.

As these two features affect the same portion of the forceps and supplement each other in their conservative action, they may be considered in connection, and their utility thus more clearly shown. Every operator must have noticed, while using instruments having widely separated, divergent, and straight shanks, that such shanks, emerging from the vagina and coming down with the advancing head, caused more or less severe bilateral stretching of the vaginal os, and, especially when making traction backward and downward, more severely put its posterior commissure upon the stretch.

Operating never so carefully with an instrument having shanks as set forth—as they are constructed in many of the



forceps in most common use, and notably in the Elliot, Simpson, Taylor, and Tarnier—one can not avoid making painful distension of the vaginal outlet, or so stretching and making pressure upon the perinæum as to test the resistant tension and strength of that body severely, or even cause its slight rupture. And where there exists either of the following conditions—one or more of which are very likely to be present in nearly every forceps case—namely, a small, unyielding, or sensitive os vaginæ; an intact ostium, not previously ruptured; an os elevated and tensely stretched, as it is generally found to be when the forceps is required, caused by the distension and strain put upon the entire vagina by the presence of the passing head, and by the traction which is being exerted through the vagina upon its outer attachments by the uterine expulsive contractions; an intact perinæum, or an unusually long perinæum; or a position of the head high up, with the perinæum normal—the difficulty set forth is so far increased, and straight separated shanks act with correspondingly augmented severity.

As the pain caused by stretching an already taxed ostium is exquisitely severe, and its occurrence so far detrimental to the nervous tone of the woman; and as the stretching and pressure exerted by imperfect shanks upon the perineal edge, when such is elevated and tense, probably cause some slight rupture of its anterior fibers, which thereby initiate, at this early stage of labor, a later, more complete or entire *but possibly otherwise preventable laceration* of that body when, as the head extends and the face sweeps out, or the shoulders are hastily brought forth, and the final strain of delivery occurs—these results, if they are unnecessary, as I hold them to be in the main, constitute the strongest reason for such relief as can be afforded.

In a great degree, and so far as they can be, these indications are met in the construction of the shanks in this model as given.

Being brought into close apposition throughout, they must emerge from the vagina as one piece, and hence can not cause any degree of bilateral stretching of that outlet; and, being at once elevated away from and above the perinæum, they can not bear heavily upon that body, no matter in what direction traction is made with them.

The indication for a *shortened cephalic curve*, especially anteriorly, which is accomplished in this instrument by a quick approximation of the blades proper from their point of greatest separation to their termination in the shanks, is readily seen. Such curve naturally will follow the contour of the child's head more closely, and thus constitute the minimum of an additional distension by the instrument, which is so far an advantage. Furthermore, a shortened cephalic curve for the blades, which if complete brings the shanks into immediate apposition, not only relieves the vagina in a general way, but for its outlet, where, as stated, the injurious effects of forceps are mostly experienced, such a form for the blades especially accomplishes a conservative result. This is evident from the following, namely: A shortened cylindrical body with a diameter sufficient to cause its marked distension will traverse an organic, elastic, and contractile tube or canal more readily than a longer cylindrical body having an equal diameter throughout. The explana-

tion is that such a canal adapts itself and accomplishes its relief in each case in proportion as its entire structure is disengaged. This illustrates the utility of a short diameter, and hence a shortened cephalic curve for the blades as regards their general effect on the entire canal.

Furthermore, it has been observed that the outer portion of the vagina, and particularly its os, is to be found elevated and tense in the earlier stages of labor, when the forceps generally is required. The causes of this state of tension and elevation occurring at this time, which condition it should be noticed disappears as labor progresses—facts not before noticed, that I am aware of—and is quite relieved when the head reaches and rests upon the floor of the pelvis, have been set forth as distension of the entire vagina by the head, and as due to the expulsive traction which is being exerted through the canal. If, however, when this state exists, we apply a forceps having blades with long cephalic curves, which otherwise cause no greater distension, we shall see that at once we decidedly increase the conditions. Therefore, not only traction and distension, as set forth, possibly, but a *lengthened distension* especially adds to the strain upon the entire vagina, and particularly upon its outlet.

These considerations, then, illustrate the fact that the cephalic curves for the blades should, in order to provide against their causing unnecessary stretching, be as short as possible, and yet be adequate to grasp the head. Hence the value of this model in this respect.

The object of giving to the blades a *well-marked pelvic curve* is manifest from the facts: (1) such curve more nearly conforms to the shape of the pelvis and vagina, and hence is more readily introduced in its course, especially, when desired, into the higher positions; (2) the blades are more readily applied to the head in the higher positions, which they grasp perpendicularly, not diagonally, which is an advantage; (3) they are more readily locked in all the required positions; and (4) if such blades are narrow, antero-posteriorly, they are less liable, while traction is being made, to be dragged heavily against the surrounding parts.

It will be observed, in addition, that this decided pelvic curve is continued at its lowest point upward by the ascending portion of the perineal curve into the shanks. This form gives to the lower outline of the blades and shanks a circular sweep and quick elevation at the termination of the former, and thus permits of retaining the forceps in position and continuing traction with it until the head is drawn well down into the pelvis against the perinæum, without necessarily bringing the shanks against that commissure, as no other form of blade does; and constitutes an advantage of importance in its favor.

Furthermore, on account of the relief gained by the low position to which this form of forceps may be made to act by the approximated handles, and by the perineal curve, such downward traction may be made with this instrument, in accordance with the higher positions, as will enable the operator to accomplish with it all that is stated can be done with the elaborate Tarnier forceps, which instrument is objectionable—because of its weight, its long cephalic curves, its widely separated shanks, and its unwieldy, com-

plicated traction apparatus. The shortened handles of this forceps, which in addition are bent upward, are advantageous in permitting of a more ready use of the instrument upon the bed without in some cases being compelled to bring the woman's buttocks to and over its edge, or even to uncover her—procedures which are always unpleasant, but are invariably rendered necessary where the handles are long, or where, as in the Hodge, Wallace, or White instruments, they are bent downward.

This forceps, as finished by Messrs. Tiemann & Co., is light and attractive in appearance. It has the simple post and spring-catch lock, the post of which is cone-shaped and easily engaged. When closed, this lock firmly connects the two blades, preventing slipping, and, from the simplicity of its action, is readily detached when occasion requires.

The hand-pieces are of hard rubber, burned on, making a close junction which will not catch septic material. The blades, as constructed, though light, I have found sufficiently unyielding to retain their hold upon the head while any necessary or prudent degree of traction is being made. Whether as at present manufactured, however, as to weight and strength, and as to the degree given to the several curves, the instrument is as complete as may be, experience with it will determine. But that its essential features—the perineal curve, close apposition of the shanks, and shortened cephalic curve—will prove advantageous, I have no doubt.

Book Notices.

A System of Human Anatomy, including its Medical and Surgical Relations. By HARRISON ALLEN, M. D., Professor of Physiology in the University of Pennsylvania, etc. Section V, Nervous System. Philadelphia: Henry C. Lea's Son & Co., 1888. Pp. iv-459 to 683, inclusive.

THIS section of Dr. Allen's work is an excellent one in some respects, if viewed from the standpoint from which it was written. It has, however, serious defects. It is not an exhaustive work upon the subject, and some important omissions have struck the reviewer, especially in those pages which treat of the brain and the spinal cord. It is, perhaps, sufficiently full to satisfy the anatomical requirements of the medical practitioner and the surgeon, but it will add little to their physiological knowledge. It is a pleasure to the reviewer to compliment the author and the publishers upon the illustrations of this section. They are clear and distinct. The tints employed bring out the outlines of the nerves with unusual clearness. Some of the dissections are new, and the woodcuts are worthy of all praise.

We have noticed that authors' names are occasionally misspelled, and their contributions misquoted in a few instances. Some of the brain sections closely resemble those of Flechsig and others, and yet no credit is given. Figs. 93, 96, and 117 to 121 are either duplicates or close counterparts of familiar sections found in the works of the later investigators in nervous anatomy. It strikes the reviewer with surprise that the physiological functions of the "motor area" of the cerebral cortex should have been excluded from a "practical" work; that the corpus striatum and the optic thalamus should have but one page devoted to them, no mention being made of their probable functions; that the "internal capsule" of the brain should be

likewise deemed unworthy of physiological consideration; and, finally, that the entire subject of the anatomy of the brain and spinal cord should be crowded into a space of forty-eight pages—of which at least one fifth is occupied by cuts.

It is evident that the author did not write this section of his work from the clinical standpoint. If contrasted with some works which have lately been published upon the nervous system, the omission of physiological information detracts greatly from the interest of this section of Dr. Allen's work. It is in direct antagonism to the plan of the system as announced upon the title-page: "Human Anatomy, including its Medical and Surgical Relations." Descriptive anatomy of the nerve-centers is rendered practical only when the physiology of their component parts is stated. Then the bearings of anatomy upon nervous symptoms become intelligible to the general reader. Without a knowledge of the functions of the cerebral ganglia, the cortical centers, the columns of Turck, Goll, and Burdach in the spinal cord, etc., the medical practitioner fails to see the utility of anatomical information.

The author himself acknowledges the justness of this criticism when he incorporates the varieties of hemianopsia under his "practical remarks" upon the optic nerve, as well as in many other sections. Why he should have deemed it unnecessary to discuss cerebral and spinal physiology except in scattered paragraphs of the text which treats of the individual nerves is a puzzle.

How is it possible for a medical reader, with limited anatomical and physiological information, to grasp the true significance of such symptoms as anosmia, hemianopsia, bulbar paralysis, "Robertson's pupil," monoplegia, hemiplegia, paraplegia, anæsthesia, delayed sensation, the modifications of the superficial and deep spinal reflexes, and the electrical reactions of muscles, without a carefully prepared digest of both physiology and anatomy combined as his guide?

Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia, etc. By JOHN ATTFIELD, F. R. S., etc., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Tenth edition, specially revised by the author for America. Philadelphia: Henry C. Lea's Son & Co., 1883. Pp. xvi-13 to 727, inclusive.

The Medical Student's Manual of Chemistry. By R. A. WITTHAUS, A. M., M. D., Professor of Chemistry and Toxicology in the University of Buffalo, etc. New York: William Wood & Co., 1883. Pp. xi-370.

ATTFIELD'S Chemistry is so well known as to be almost a standard, and, for those who wish to approach the science from the standpoint of the analytical chemist and the pharmacist, no better manual can be recommended. The present edition (the tenth) has been conformed to the United States Pharmacopœia, and in other respects fully brought up to date.

Of quite a different character is the recently published "Witthaus's Manual of Chemistry." It approaches the subject at once from a theoretical standpoint, beginning with the atomic theory and the principles upon which chemical formulæ are constituted; and throughout it constantly places the laws and general facts of the science prominently in the foreground. The properties of the individual elements and compounds are described, to be sure, but mainly as illustrative of the general principles; and the whole plan of the book is such as to give its reader a thorough grounding in the science of chemistry, just as Attfield's book directs his attention to chemistry as an art. The book certainly satisfies a need; and, in our opinion, it satisfies that need very well.

The definitions are excellent, the enunciation and explanation of theories admirable, and the classifications, although artificial, as all systems of chemical arrangement must be, are convenient and satisfactory enough. It is the sort of book, in short, that we should like to recommend to the student as the basis of his future study, being assured that, if he has well mastered its contents, he can subsequently encounter any of the larger technical treatises without fear of bewilderment.

The Field of Disease: A Book of Preventive Medicine. By BENJAMIN WARD RICHARDSON, M. D., LL. D., F. R. S., etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 737.

THIS is a book that will surely find a place on the table of every progressive physician, although originally intended for popular reading alone. The work, however, seems too full and exhaustive to meet with ready sale to the public, who much prefer, when selecting a work on sanitary topics, to choose one of smaller dimensions; but to the medical profession, whose duty is now recognized to be quite as much to prevent as to cure disease, the book will be a boon. We do not agree, however, with Dr. Richardson that "the conception that these afflictions can be prevented is of modern times, and indeed we may say practically of the present century, or even of the latter two thirds of the present century." Has Dr. Richardson forgotten the search, centuries long, for the universal panacea? or the famous Code of Health of the School of Salerno? or yet the march of Ponce de Leon? Let us say that no age has been without its attempt at preventive medicine; the present is only its most successful epoch.

This subject, a tempting one to the reviewer, is too great to be disposed of satisfactorily in a few lines, and we must go on to examine some of the special features of the work. It is divided into three books. Book 1, in three parts, contains a running description of diseases, general and local, taken up according to the nomenclature of the London College of Physicians. Book 2, also in three parts, is on acquired diseases, and the induced or acquired diseases from inorganic poisons, gases, vapor, organic poisons, dusts, mechanical pressure on the lungs, concussions and shocks, overwork and strain, deformities and defects of body, physical injuries, surgical operations, mental agencies, moral agencies, mental shock, moral contagion, hysterical emotion, common emotion, and habit. The third book is in two parts, and is a "practical summary of the origin, causes, and prevention of disease."

In conclusion, it may be said that the book, although the work of an enthusiast, seems to fill a present want, and may well be viewed by its distinguished author as the first issue of the hand-book of that Eutopian "City of Hygeia" which all true lovers of the race desire to see.

We think, however, that in his next edition the author will doubtless find it expedient to shorten some of the topics in Book 1, and to elaborate that on the relationship of occupation to disease, pages 624 to 627. This chapter does not compare favorably with the classic work of Ramazzini and Patissier ("Maladies des artisans") published in 1822, which, for a book professing that all knowledge on this subject is extremely recent, is what Dundreary would call "a little off, you know"; but, where there is nothing to condemn and much to praise, we only criticise for the sake of the next edition.

BOOKS AND PAMPHLETS RECEIVED.

Practical Pathology. A Manual for Students and Practitioners. By G. Sims Woodhead, M. D., F. R. C. P. E., Demonstrator of Pathology in the University of Edinburgh, etc. With

one hundred and thirty-six colored plates. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xv-484.

A Manual of Obstetrics. By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., etc. With fifty-nine illustrations. Second edition. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 338.

Manuale Clinico Terapeutico sulla Impotenza Sessuale nell' Uomo dell Dott. W. A. Hammond, Prof. delle Malattie Mentali e Nervose nella Università di New York. Riduzione dall' Inglese del Dottor A. Rubino. Napoli: Giovanni Jovene, 1884. Pp. vii-102.

The Causation of Sleep. By James Cappie, M. D. Second edition, rewritten. Edinburgh: James Thin, 1882. Pp. xv-207.

On the Pathology and Treatment of Gonorrhoea. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Fifth edition. New York: William Wood & Co., 1884. Pp. viii-306. [Wood's "Library of Standard Medical Authors."]

The Parents' Medical Note-Book. Compiled by A. Dunbar Walker, M. D., C. M. London: H. K. Lewis, 1884. Pp. 26.

Hand-Book of Eclampsia, or Notes and Cases of Puerpera. Convulsions; comprising all the Cases which have occurred during the Present Century within a radius of several miles around Avondale, Chester Co., Pa., so far as can be ascertained. By E. Michener, M. D., J. H. Stubbs, M. D., B. Thompson, M. D., R. B. Ewing, M. D., and S. Stebbins, M. D. Philadelphia: F. Al Davis, Atty., 1883. Pp. 68.

Mr. Brodhurst's View of the Cause of Rotation in Lateral Curvature of the Spine. By A. B. Judson, M. D., etc. [Reprint from the "Medical Record."]

Is Extirpation of the Cancerous Uterus a Justifiable Operation? By A. Reeves Jackson, M. D., etc., Chicago. [Reprint from the "Transactions of the American Gynecological Society."]

The Surgical Treatment of Tumors and other Obscure Conditions of the Bladder. By Walter Whitehead, F. R. C. S. E., etc., and Bilton Pollard, M. D., etc. [Reprint from the "Lancet." Price, 1s.]

First Annual Report of the New York Skin and Cancer Hospital.

Twelfth Annual Report of the New York Free Dispensary for Sick Children.

Annual Report of the Directors and Medical Board of St. Michael's Hospital, Newark, N. J., January 1, 1884.

Female Hygiene and Female Diseases. By J. K. Shirk, M. D., Member of the Lancaster City and County Medical Society. Lancaster, Pa.: The Lancaster Publishing Co., 1884. Pp. 107.

Contribuzione alla Patogenesi della Pseudo-ipertrofia Muscolare. Per Gradenigo, Dott. Giuseppe (juniore), di Padova. [Reprint from the "Annali Universali di Medicina."]

Fifth Biennial Report of the State Board of Health of Maryland, January, 1884.

Thirtieth Report upon the Births, Marriages, and Deaths in the State of Rhode Island, for the year ending December 31, 1882. Prepared by Charles H. Fisher, M. D., State Registrar of Vital Statistics, etc.

Fourth Annual Report of the Newark Charitable Eye and Ear Infirmary.

On a New Mode of Operating for Fistula in Ano. By Edward W. Jenks, M. D., LL. D., of Chicago. [Reprint from the "Gynecological Transactions."]

Medico-Legal Society. Inaugural Address of President Clark Bell, Esq., etc., January 8, 1884.

Medical Department of Niagara University, Buffalo, N. Y. Announcement of Spring Term, 1884.

THE

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BENEFICIARIES IN MEDICAL SCHOOLS.

THE law of supply and demand will always make itself felt at the last, even in matters pertaining to so mismanaged a business as the American method of recruiting the ranks of the medical profession. Hence, granting it to be consistent with public duty to do so, there is at present no urgent call to take up with the tactics of trades-unionism, as one of the speakers at the recent meeting of the Medical Society of the State of New York forcibly remarked in the discussion on the proposed laws for regulating the entrance to the profession in this State. The abundance of medical practitioners in this country, as compared with almost if not quite every other country, is a striking fact, and one that has been dwelt upon to the full extent of its pertinence. It has often been urged, without the least regard to the collateral fact, that our country presents conditions bearing upon the questions raised that are wholly different from those that obtain in other countries with which the comparison is made. The chief of those conditions is that the United States lack compactness, not only as to the territory at large, but also as to the individual sections. It is only in the large cities that a practitioner of medicine can see as many patients in a day as his European brother can; in the rural districts most of his time every day is taken up with the mere getting about from one to another. We grant that, making all due allowance for this consideration, it is to be feared that the ranks of the profession are being filled up too fast, both for its own interest and for that of the public. We are confident, however, that this fact will soon come to be recognized by the greater proportion of the young men who, as matters are now, suffer themselves to be deluded into the expectation of making a living easily by the practice of medicine.

While, therefore, we do not share the alarm with which many look upon the increase of the medical body, it can not be questioned that to stimulate this increase, to carry it still farther, and especially by devices which are in themselves debasing, should be opposed with all the force at the command of the profession. From this point of view, it seems to us, medical men all over the country should feel under obligation to Dr. David W. Yandell, of Louisville, for his vigorous denunciation of the practice of soliciting young men to become students of medicine as beneficiaries. The beneficiary system is open, we think, to very grave objections at best. The practice of medicine is getting to be more and more a calling in which something beyond natural aptitude and reasonable educational qualification is needed to make the prospect of material success at all inviting—in one form or another, capital is growing to be an element in the condition that conduce to success. To lure

young men, then, into a career in which they will almost necessarily find themselves handicapped from the start is what this solicitation of beneficiary students amounts to.

Moreover, as at present conducted, the business of educating men in medicine is one in which the teachers have a pecuniary interest—an interest that is perfectly legitimate. To all intents and purposes it represents capital invested. To rob this investment of its just power to give a return, by the cheap devices of trade competition, is ignoble and unworthy of toleration. This sentiment is very far removed from the narrow spirit that would make all colleges conform to a hard and fast rule as to fees; the latitude in the matter now countenanced, and nowhere opposed, seems ample to acquit the quasi-federation of the leading colleges of any aim at crushing out legitimate rivalry. Besides a considerable range in the matter of the fees for a course of lectures, it allows beneficiaries to be taken in the proportion of five per cent. of the classes. From the statements made in Dr. Yandell's article (a signed supplement to the February number of the "American Practitioner"), the conclusion seems unavoidable that at least one of our colleges is in the habit of exceeding the utmost stretch of decency in the matter of beneficiaries. The devices resorted to, as given by Dr. Yandell in the form of letters from various members of the faculty to young men of whose intention of studying medicine they seem to have become aware casually, if not as the result of something quite akin to the emigrant-runner's modes of canvassing, we do not hesitate to say are nothing short of disgraceful. Fortunately, so flagrant a violation of propriety will undoubtedly work its own cure—whether to the confusion of the offending college or to a change in its policy, is a question of small moment.

THE WASHINGTON OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

ON the 5th of October this society completed the first year of its existence, and on that occasion its president, Dr. Samuel C. Busey, gave an address which we trust will be widely read, for it contains matter that no general practitioner of medicine, and especially no one who practices obstetrics, can fail to profit by pondering. We are indebted to Dr. Busey for a copy of the address, in pamphlet form, reprinted from the February number of the "American Journal of Obstetrics."

The best work in American medical literature is getting to be more and more the work that is presented before medical societies in the form of papers, and we have several times called attention to the great superiority, in general, of the papers read before the special societies. Dr. Busey distinctly recognizes the wide field of usefulness that lies open before such societies, and, with him, we congratulate the Washington Obstetrical and Gynæcological Society upon its foundation and upon its successful entrance into this field. New York still leads the way in the matter of special societies, and, while we are not unmindful of the good work done at times in the large general societies of New York, as lately exemplified by the discussions on puerperal fever at the Academy of Medicine, it is to the influence of her

special societies that New York should ascribe almost the whole of what she receives credit for in current medical literature—leaving books out of account, of course.

There is scarcely a city of any considerable importance in the land that can not follow our example to advantage. Certainly, the founders of the Washington Obstetrical and Gynecological Society are amply justified, by the creditable achievements of their society during the first year of its existence, in having judged that its organization would prove of advantage to the profession in their city. Not only has it reflected credit upon Washington, but, by its proceedings having been published to the general profession, it has contributed to the enlightenment of obstetrical and gynecological practice wherever those proceedings are read. It is too apt to be the case, there is reason to think, that the physicians of small cities distrust their ability to sustain special societies with credit. The feeling is quite natural, we will allow, especially in regard to some of the narrower specialties, but, when it comes to such subjects as obstetrics and gynecology—the first of which, at least, no general practitioner can avoid—the ability to maintain a special society ought to be almost co-extensive with the capability of general society work in medicine. In the case of Washington at all events, we are convinced that even the stricter specialties might be entered upon by societies with very flattering prospects of success, especially when we remember the advantages the capital possesses by virtue of its being in a certain sense the center of resort for many of the bright minds that are to be found in the medical corps of the army, the navy, and the marine-hospital service. To point the pertinence of the latter consideration, we need only refer to the conspicuous success of the newly-formed Naval Medical Society.

The greater portion of Dr. Busey's address is devoted to a masterly consideration of a subject that is destined yet to claim the most rigid scrutiny from the American profession—the justifiability of craniotomy. In the past this sacrificial operation has counted for little in the actual personal study of obstetrics in America, for the reason, mainly, that American women have very rarely been found the victims of pelvic contraction to a degree calling for any thought of such a procedure. When, in exceptional instances, the conditions generally held to call for its performance have arisen, the decision has therefore had to be made on the strength of foreign (that is to say, British) doctrine, as found ready at hand in the textbooks, rather than on the basis of deliberate conviction. With the tide of immigration that keeps on setting to our shores, however, and with the *res angusta domi* that must in the natural course of events sooner or later prevail among us as well as among the people of older countries, pelvic deformities will become a matter of frequent observation rather than of mere hearsay; and we shall then be forced to work the craniotomy problem out for ourselves. It is fortunate that, in the mean time, the prevalent British practice has been in a great measure overthrown by the work of our Continental brethren.

The legitimate deductions from this work are forcibly put

by Dr. Busey, and we are firm in the trust that an operation by which, at best, only four lives are saved out of ten imperiled can never become a general resource among us. Not the least of the grounds for national congratulation in this matter lies in the reflection that laparo-elytrotomy—essentially an American operation—has undoubtedly served as a prime stimulus to the advances that have been made of late years in perfecting the life-saving alternatives of craniotomy. The recent revival of the Sigaultean operation of symphyseotomy does not in the least detract from the justice of this observation, but rather confirms it.

MINOR PARAGRAPHS.

THE ACADEMY OF MEDICINE.

If there is any institution in New York in which every member of the profession in the city should feel a personal interest, it is the Academy of Medicine, inasmuch as it aims at providing a library and reading-room, together with several other means for facilitating literary work by physicians. Since the library is open to the general public also, there would seem to be good reason for an extension of the interest in its affairs that has sometimes been shown by persons not of the profession. It is but a few years since the Academy took the bold step of buying the property now occupied by it, and it is probably within the knowledge of many of our readers that, in consequence of that step, it is still burdened with a mortgage. We are glad to be able to say that a fund is being accumulated with gratifying rapidity with which this incumbrance may be paid off, and particularly glad to learn that recently several considerable gifts have been made to the Academy to be added to this fund. Among them, we may mention one of \$1,000, by Dr. Horace P. Farnham, and one of \$225, by Dr. C. R. Agnew.

THE STATE EXAMINING BOARD AND THE SECTS.

SOME months since, commenting on the Erie County society's bill for the establishment of a State examining board, we expressed a doubt as to the acquiescence of the sects in the proposed *pro rata* representation on the board, and therefore as to the expediency of attempting to secure such acquiescence by making the representation proportionate. That we had good ground for this opinion appears from the recent action of the homeopathic State society in expressing its disapproval of all the bills that have come before the Legislature, and declaring in favor of an equal representation of the sects. It ought now to be plain to the new committee of our own State society that there is nothing to be gained by attempts to propitiate the sects.

MEDICAL WOMEN IN THE LAST CENTURY.

It seems that in the year 1735 the calendar of the city of Lyons contained a list of forty-three master surgeons and a list of thirteen widows of surgeons, the latter being allowed to practice. "Lyon médical," recording the fact, waxes facetious, quoting the custom as undoubtedly an exemplification of the old adage: *Quand le médecin n'y est pas, on s'adresse à la médecine*, and adding that several of the widows might justly have passed for true *succédanés* (*succès d'année*) by the mere fact of their survival.

NEWS ITEMS, ETC.

THE PLEURO-PNEUMONIA BILL has passed the House, with an appropriation of \$250,000 to provide for carrying it into effect. We have already given the main features of the bill.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 4, 1884:

DISEASES.	Week ending Feb. 26.		Week ending Mar. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever.....	11	5	10	7
Scarlet Fever.....	64	11	78	19
Cerebro-spinal meningitis....	5	5	3	3
Measles.....	39	3	41	4
Diphtheria.....	44	23	35	21

THE COLLEGE OF PHYSICIANS AND SURGEONS, OF BALTIMORE.—The annual commencement was held on Tuesday of this week, and diplomas were conferred on one hundred and twenty-seven candidates. The alumni association, now numbering over a thousand members, held its meeting the day before.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK will hold its forty-third annual commencement on Tuesday evening, the 11th inst., at the Academy of Music.

THE UNIVERSITY OF VERMONT.—The new building of the medical department, the gift of Mr. John P. Howard, was inaugurated with appropriate exercises on Thursday, the 6th inst.

THE PENDLETON PRIZE, being a gold medal, for the best literary work done during the year 1883 by any member of the New York Medico-Chirurgical Society, has been awarded to Dr. Henry B. Millard, for his work on Bright's Disease.

THE LATE DR. ELISHA HARRIS.—At a recent conference of prison officials, held under the auspices of the National Prison Association, memorial resolutions were passed relating to the death of Dr. Harris.

THE FOOT-AND-MOUTH DISEASE, according to consular reports, is prevailing in almost every county in England. A cargo of cattle lately landed at Portland, Me., from England, having been reported to have spread the disease in the neighborhood, the Secretary of the Treasury has asked the Secretary of State to instruct our consuls in Great Britain to satisfy themselves of the healthy condition of cattle to be shipped to this country before certifying invoices. *Per contra*, the British Government is reported to have prohibited the importation of cattle from Portland from February 27th to March 12th, inclusive, the disease having broken out among a lot of animals shipped from that port recently.

BROOKLYN APPOINTMENTS.—Dr. E. A. Lewis having been transferred from the Fire Department to the Police Department, it is reported that Dr. J. W. Fleming, heretofore assistant surgeon to the Fire Department, has been made surgeon, being succeeded in his former office by Dr. N. A. Robbins.

THE CONGRESS FÜR INNERE MEDICIN, according to the "Medical Times and Gazette," will be held this year in Berlin, from the 21st to the 24th of April, under the presidency of Professor Frerichs. Papers will be read by Dr. Hermann Weber, on School Hygiene in England, especially with reference to Infectious Diseases; by Dr. Rosenthal, on Reflexes; and by Dr. Goltz, on the Localization of the Functions of the Brain. There will be discussions on True Pneumonia, its Etiology, Pathology, Clinical Characters, and Treatment; on Poliomyelitis and Neuritis; and on Nervous Dyspepsia.

THE NEW YORK SKIN AND CANCER HOSPITAL.—The position made vacant by the resignation of Dr. Hunter has been filled by the appointment of Dr. J. E. Janvrin, with Dr. J. R. Goffe as his assistant.

A SANITARY CONVENTION will be held at Hillside, Mich., on the 17th and 18th of April, under the auspices of the State Board of Health.

THE "INTERNATIONAL REVIEW OF MEDICAL AND SURGICAL TECHNICUS."—As its name implies, this new quarterly journal is devoted mainly to depicting and describing new devices, for the most part mechanical, for use in practice. It is edited by Dr. Joseph H. Warren, Dr. Charles E. Warren, and Dr. Willard E. Smith, and published in Boston. The first number, dated January, 1884, gives promise that the journal will prove exceedingly useful.

"THE ANALECTIC" is the title of a new monthly journal edited by Dr. Walter S. Wells, and published by the Messrs. Putnam. The contents are made up of condensed abstracts, and the work is very cleverly done, as was to have been expected from Dr. Wells's former experience in this particular branch of medical journalism.

THE NEW YORK HOME FOR CONVALESCENTS.—We are pleased to note the continued usefulness and prosperity of this institution, as shown in the fourth annual report, recently issued.

THE SANITARY COUNCIL OF THE MISSISSIPPI VALLEY will hold its sixth annual meeting in Memphis, Tenn., on Wednesday, March 19th.

A SOUTHERN RETREAT FOR INVALIDS.—Dr. W. M. Chamberlain, of No. 68 West Fortieth Street, will be glad to give to any one desiring it the address of a refined family (residing near a large town in Georgia, on a sandy plateau seven hundred feet above the sea) in which some of his patients have found a winter home with unusual sanitary and domestic advantages.

THE CARTWRIGHT LECTURES.—Owing to the pressing nature of Professor Wilder's engagements, together with his absence from town, his revision of the third lecture of the course is necessarily somewhat delayed. We are therefore compelled to defer its publication for the present.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 24, 1884, to March 1, 1884:*

BROWN, JOSEPH B., Lieutenant-Colonel, and **BILLINGS, JOHN S.**, Major, Surgeons. Directed to attend the International Health Exhibition in London, and, as delegates, the International Medical Congress at Copenhagen, to be held in May and August next, respectively; also to include Berlin in their route to or from Copenhagen, and to be governed by special instructions from the Surgeon-General in complying with this order. S. O. 44, Par. 8, A. G. O., February 21, 1884.

WOODWARD, JOSEPH J., Major and Surgeon. Leave of absence still further extended six months on account of sickness. S. O. 44, Par. 11, A. G. O., February 21, 1884.

HORTON, S. M., Major and Surgeon. Having reported at these headquarters from leave of absence, ordered to Fort Hays, Kansas, for duty. S. O. 40, Par. 2, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, February 20, 1884.

DIETZ, WILLIAM D., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at U. S. Military Academy, West Point, N. Y.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Assigned to temporary duty in Department of the East.

MEARNS, EDGAR A., First Lieutenant and Assistant Surgeon. Assigned to duty in Department of Arizona.

KNEEDLER, WILLIAM L., First Lieutenant and Assistant Surgeon. Assigned to duty in Department of Dakota.

BLACK, CHARLES S., First Lieutenant and Assistant Surgeon.

Assigned to duty in Department of Texas. S. O. 46, Par. 1, A. G. O., February 25, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending March 1, 1884:*

WHITAKER, H. W., Assistant Surgeon. Relieved from the Portsmouth and placed on sick leave.

GREEN, E. H., Passed Assistant Surgeon. Relieved from Museum of Hygiene, and waiting orders.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, March 10th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (annual—private).

Tuesday, March 11th: New York Surgical Society (private); New York Medical Union (private); Jersey City Pathological Society; Newark (N. J.) Medical Association (private); Trenton (N. J.) Medical Association (private); Medical Societies of the Counties of Chemung and Rensselaer.

Wednesday, March 12th: New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the Counties of Montgomery, N. Y., and Middlesex, N. J.

Thursday, March 13th: New York Laryngological Society (private); Society of Medical Jurisprudence and State Medicine; Harlem Medical Association (private); Brooklyn Pathological Society.

Friday, March 14th: Medical Society of the Town of Saugerties.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 13, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

AN OLD INJURY OF THE LOWER LIMB.—Dr. F. FERGUSON reported further regarding a specimen presented at the last meeting of the society, which consisted of a lower limb removed from a man who had sustained an injury twenty years ago, for which he was treated in Paris. When the soft parts were removed from the bones, the result of an old injury was disclosed, by which the shaft of the femur seemed to have been driven down upon the condyles. The inner condyle had united with the shaft by bridges of bone, while osseous union had not taken place between the outer condyle and the shaft. There was a limited amount of motion, not so much in the joint itself as in the line of fracture between the outer condyle and the shaft and between the inner condyle and the articular surface of the tibia. There seemed also to have been an injury to the upper part of the bones of the leg, and they had become generally fused together by osseous material. There were also a number of sesamoid bones in the neighborhood of the knee. Some surgeons who had examined the specimen thought there had probably been slight arthritis deformans.

STRICTURE OF THE URETHRA; DILATATION AND HYPERTROPHY OF THE BLADDER AND URETERS; HYDRO-NEPHROSIS.—Dr. FERGUSON also presented specimens showing these conditions, removed from a man who had died in the Emigrants' Hospital, and for whom he was indebted to the superintendent of that institution. The man had first complained of difficult micturition, and three months afterward had entered Guy's Hospital, London, where he was told that he had a stricture of the urethra which would require constant attention, and was instructed

how to pass an instrument. Six months after his discharge he entered St. Bartholomew's Hospital, where he was told that an operation would be necessary, but he refused surgical interference. When he entered the Emigrants' Hospital in New York he was suffering intense pain, and the bladder was found to reach considerably above the symphysis pubis. The patient denied having had gonorrhœa or any injury to the urethra, and said that he had no reason for concealing venereal disease if he had ever so suffered. He positively refused any surgical operation whatever, and died a few days after admission, without any relief from the pain. At the autopsy three tight strictures were found just anterior to the prostatic urethra, two of which were impervious. Back of the strictures the urethra was largely dilated. The bladder and the ureters were largely dilated and thickened, and the kidneys were in a marked degree the seat of hydro-nephrosis.

CARCINOMA OF THE CARDIAC END OF THE STOMACH AND OF THE ESOPHAGUS.—Dr. FERGUSON also presented a specimen illustrating this condition occurring in a woman forty-three years of age, who was admitted to the service of Dr. A. B. Ball, at St. Luke's Hospital, on the 1st of August, 1883. The patient had suffered from pain in the epigastrium and back, which was aggravated by the presence of food in the stomach. Subsequently there was vomiting. When admitted to the hospital, although fairly well nourished, she had lost flesh to a marked degree, her appearance was cachectic, and she suffered constant pain in the back and epigastrium. All solid food was rejected by the stomach. She had hæmatemesis, at one period recurring repeatedly every day for three weeks. Nourishment was given principally by the rectum. A diagnosis of cancer of the stomach was made. She died on the 29th of January, 1884. Full one third of the cardiac portion of the stomach was found ulcerated, the ulceration also involving the lower end of the esophagus. There were no enlarged glands in the neighborhood of the growth, and no secondary deposits in other organs.

Dr. C. C. LEE thought, with reference to the second specimen, that the patient's statement to the effect that he had never suffered from gonorrhœa might under the circumstances be accepted as true, for the foundation of strictures in that region was often laid during boyhood, before exposure to gonorrhœa, the result not becoming manifest until later in life. Some years ago, when surgeon to the Venerable Department in Charity Hospital, he saw many similar cases of stricture, and this was only another which went to show the necessity of a timely operation.

PUERPERAL FEVER.—Dr. LEE exhibited a uterus removed from the body of a woman who had died of puerperal fever, in order that he might have an opportunity to make some remarks regarding the treatment of that disease, which of late had given rise to so much discussion in the medical societies of this city. The patient was a primipara, who was confined in the Maternity Hospital of the New York Foundling Asylum on the 1st of February, and who died on the 9th. The result of the autopsy, which was made by Dr. Northrup, would be given very briefly. The perineum was slightly ruptured, and was secured by one suture. Nothing unusual was observed in the condition of the patient until the fourth day after delivery, when she began to appear generally very ill, there being headache, pallor, and pain and tenderness in the lower part of the abdomen, most marked in the left iliac region. The lochia then assumed for the first time rather a fetid odor. On this day the temperature rose as high as 104° F., and the pulse was about 130. On the following day the temperature in the morning was 104°, and in the evening 104.5°. As on the first day on which the patient began to manifest these symptoms, they were supposed to be possibly due to milk fever. The treatment by intra-

uterine injections was, however, begun at once, and was continued up to the day of her death, which occurred four days later. Bichloride of mercury, one part to two thousand of water, was employed. At first the injections seemed to have a decidedly beneficial effect, reducing the temperature from 104.5° to 102° ; but subsequently, although they brought away a quantity of foetid debris, granular in character, and not at all membranous, they ceased to have any effect whatever in reducing the temperature or in controlling the course of the disease. He would not consume the time of the society by reading the daily temperature record. At the autopsy the abdomen was found distended, and there were the results of a perimetritis and an endometritis. There were no signs of cellulitis. The uterus contained brown, dirty-looking matter, irregularly heaped up on the lining membrane, and diffusing an offensive odor. This substance seemed to be due to broken-down clots, as no evidence of placental structure or membranes was to be seen. At one point on the cervix there seemed to be some indication of contusion; but the labor had been normal. There were no inflammatory products within the cervical area. The other abdominal organs were normal. In the absence of a microscopical examination, the endometritis seemed to have been croupous.

Dr. Lee remarked that the uterine douche had been given by an experienced house surgeon, and in the most careful manner, yet, beyond bringing the temperature down to 102° for the first two days, it had not produced the slightest amelioration of the symptoms. He did not mean to say that this case proved that the douche should not be administered when puerperal septicaemia was present. The systematic use of intra-uterine injections in puerperal septicaemia was an admirable and a necessary adjunct in the treatment of this affection; but he thought the laudation which it had received of late at the hands of some eminent obstetricians was liable to mislead others who had not had an equal experience in the treatment of this affection, and lead them into the erroneous supposition that this was the only thing which could be done. Here was a case in which the test was made of treatment almost exclusively by carefully conducted antiseptic intra-uterine douches, the patient dying, notwithstanding, at the end of a few days. The case did not prove, however, that this method of treatment was not highly important and valuable; but it certainly did show, as just stated, that it could not be relied upon alone for checking the process even when it was begun with the initial symptoms of septicaemia. Dr. Lee showed two forms of glass tube by which to make the injections, and stated that he found the curve of the hard rubber tube employed in Vienna to be better adapted to these cases, the greatest objection to that tube being that the bulbous distal end was screwed on to the shaft, thus being more liable to retain septic matter.

Dr. A. JACOBI thought that the septic process had probably got well under way before the injections were begun. This was indicated by the high temperature. Had they been given earlier they might have done more to control the disease. Often the diphtheritic form of inflammation after childbirth commenced with a low temperature, and might run its entire course without giving rise at any time to much elevation of temperature. Concerning the tubes through which to make intra-uterine injections, he had often thought that those made of glass were objectionable simply because they could not be bent to suit the varying axis of the uterine canal as it was found after labor. He therefore had been in the habit of using a large-sized, thick elastic rubber catheter, withdrawing the wire by degrees as the tube was introduced into the uterus, and thus making sure that it adapted itself perfectly to the direction of the canal without doing the least injury. So far as difficulty of cleaning the cath-

eter was concerned, he thought that if we could expect to disinfect the uterus in the living woman we certainly should be able to disinfect a large elastic catheter. He always used the fountain syringe.

Dr. LEE said it was true that the intra-uterine injections were not begun in this case until the fourth day after labor, but it was also true that the patient showed no signs of any abnormal state until that date, and he supposed that Dr. Jacobi would not begin the use of such injections until there were some indications for their use. He presumed that it was possible that the septic process might have got well under way before the injections were begun, but this measure could not be justified until certain symptoms dependent upon it had developed.

Dr. JACOBI said he had not intended to criticise the treatment in the case related by Dr. Lee. He had simply intended to say that in some cases it would be found that the septic poisoning had gone too far to be checked by the douche, and he was willing to admit that there were some cases in which he could not make the diagnosis until after it was too late to save the patient's life.

Dr. W. P. NORTHRUP said that, regarding the exudate on the lower half of the uterus, whatever name were applied to it, it was pus and fibrin. It had indifferently the names diphtheritic and croupous inflammation. The teaching in the College of Physicians and Surgeons was that, anatomically, the two lesions were the same. In diphtheria the specific systemic poison was accompanied by the local lesion. Dr. Lee was sustained by Dr. Delafield in calling this a croupous endometritis.

IMPERFORATE ANUS.—Dr. NORTHRUP presented the specimen, which was removed from a child who died on the eighth day. It had been brought to the Foundling Asylum and sent out to nurse. After a little time the nurse returned with the child, stating that it vomited after each nursing, was irritable, and had had no passage. The abdomen was found to be very much distended and the superficial veins much enlarged, as if the patient were suffering from cirrhosis of the liver. Externally the anus appeared normal, but, on inserting the little finger, it entered what appeared to be a *cul-de-sac*, and came in contact with a soft membrane. This was penetrated, as was also a thin imperforate membrane above, and a considerable amount of gas and feces afterward escaped. The child was much relieved, but, apparently without sufficient reason to account for it, it died on the eighth day. At the autopsy it was found that the finger, just after entering a *cul-de-sac* inside the lower sphincter, had penetrated a thin membrane, passed through some loose connective tissue, and just above had come in contact with a second membrane, stretching across and occluding the gut, which, when divided, had permitted the escape of the intestinal contents.

GENERAL CONNECTIVE-TISSUE HYPERPLASIA.—Dr. JACOBI presented a series of specimens taken from the body of a child who died in Bellevue Hospital at the age of between one and two months. The child had entered with its sick mother, and had presented no special symptoms, but died suddenly. The history was therefore very imperfect. At the autopsy nearly all the viscera were found to present the same lesion, a condition of interstitial-tissue hyperplasia. On the left side there was a pharyngeal abscess. Attention had not been called to any change in the child's voice. In the neighborhood of the abscess there were enlarged glands, and it was probable that the abscess began as a suppurating adenitis. The bronchial, mediastinal, and mesenteric glands were considerably enlarged. The left lung was the seat of slight hypostasis and emphysema; the right presented interstitial pneumonia. The liver was enlarged, heavy, and pale, and its surface presented thousands of little dots. It was cirrhotic, containing a large amount of new

interstitial tissue, and in a less degree it was fatty. Both kidneys were the seat of interstitial nephritis, the change being more marked in the left than in the right organ. The spleen, although it had not yet been examined microscopically, seemed also to have undergone a like pathological change. The walls of the lower third of the small intestine were swollen and thickened, and at a few places had undergone ulceration. Nothing abnormal was found in the brain. Nowhere were gummata present. It was probable we should have to fall back in the aetiology upon some general cause, probably syphilis. Gummata were not so frequent in the infant affected with hereditary syphilis as general hyperplasia of the tissues.

Dr. J. Lewis Smith believed that peripharyngeal abscess occurred more frequently in New York than was commonly supposed, being due to a strumous state of the glands, and, if recognized in time, life might be saved by an operation.

STRICTURE OF THE ESOPHAGUS CAUSED BY A CARCINOMATOUS GROWTH.—Dr. BEVERLEY ROBINSON presented the specimen, which was removed from the body of a man who died at forty-two years of age, having suffered from a profuse muco-purulent expectoration for six months previous to his admission to the hospital; also from frequent vomiting, considerable dyspnoea, and loss of flesh. The case was interesting from the fact that, notwithstanding the extent and degree of the obstruction to the lower portion of the oesophagus by the carcinomatous growth, the patient did not complain of pain on deglutition until two weeks prior to death. He did not vomit during the three weeks he was in the hospital. There were certain physical signs present which had led to a mistake in diagnosis, and which Dr. Robinson did not think appeared perfectly clear in the light of the autopsy.

AN OSTEOTOME.—Dr. J. A. WYETH presented a modification of the osteotome of Mr. Gowan, of Guy's Hospital, London, and said that he regarded it as the most useful instrument in his armamentarium. It consisted of a saw in the shape of a chisel, connected with two horizontal spring jaws, intended to hold the bone; the saw, being in position, was worked laterally, in a semicircle, by the right hand, while the bone was steadied with the jaws held by the left hand. Dr. Wyeth had used the instrument in excision at the hip joint once, at the shoulder joint twice, at the wrist joint once, at the elbow joint once, at the ankle once, and on the scapula, besides at some of the smaller joints, and it had given great satisfaction. He had divided the neck of the femur with it in one minute. The instrument as modified by him was less complicated and less costly than the original.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 21, 1884.

FORDYCE BARKER, M.D., LL.D., President, in the chair.

THE DIFFERENCES IN FORM OF THE ADULT HEAD.—Dr. JOHN C. DALTON made some remarks upon this subject. He had lately become interested in a method of comparing the differences in the form of the adult human head by means of the paper patterns which hatters made in fitting hats. These patterns were made from models representing perfectly the circumferential outline of the head on a line with the hat-band. At one of the shops where he visited there were many of these patterns. It occurred to him, in looking them over, that there was a great variety in the forms presented, and he thought it might be an interesting way of comparing the forms of the adult head in persons mainly resident in the city, and all probably in comfortable circumstances, being able at least to employ a regular hatter. He had a quantity of these patterns, representing the shape of three hundred and sixty heads of customers as they

appeared in succession. Looking at the diagrams [of which nine were shown] representing some of the most decided variations in outline in a general way, there were certain variations which would strike the observer. First of all, as to general shape, it could be divided into the variations with which all were probably acquainted—into long heads and round heads. There was a great deal of variation within certain limits in this respect. It was considered that in the medium form of head the width stood in relation to the length in about the proportion of 100 to 125. Practically, however, the mean length ranged between 120 and 130, and, representing the width by 100, any head in which the length would be represented by a figure below 120 would be classed as a round head, and above 130 as a long head. Besides these peculiarities respecting width and length, there were also other peculiarities in form. In some cases the front portion of the head was narrower than the back portion, and *vice versa*. In some the entire outline was curvilinear, but in the great majority of cases there were angles and straight lines. Again, the two sides of the head were more or less unsymmetrical. In the first diagram there would be seen a very regular, symmetrical oval. In No. 2 there was a squaring of the frontal part of the head; the temples were flattened. This flattening of the temples existed in many cases, in some amounting almost to a depression, and such persons found difficulty in obtaining a well-fitting hat. In No. 3 the occiput was not so rounded. We now came to those which began to merge into the class of long heads. In one case the length was represented by 135, and in the longest of the lot the length was represented by 153. A general glance at the long head would give one the impression that the elongation consisted chiefly in a projection of the occiput. In the diagram most nearly round the length was represented by 108.

With regard to the want of regularity in the outline in the diagrams, it was present in all in greater or less degree. Although it might not be apparent to casual observation, it became very readily apparent when the diagram was folded in the median line along the long diameter. The edge of one half of the paper diagram would be seen to project irregularly beyond the corresponding part of its fellow. In some cases the want of symmetry was very pronounced, while in others it was very slight; but Dr. Dalton had not been able to find any in which there was perfect symmetry. This want of symmetry was also one of the first peculiarities which struck the observer in making successive sections of healthy brains, and was present whether the sections were made vertically, horizontally, longitudinally, or crosswise, and it pertained to both the cerebrum and the cerebellum.

These observations raised a question of some practical interest. We were now very strongly inclined to believe that all parts of the brain had not one and the same function or mode of action; that there were certain nervous operations conducted by the gray matter in one part of the brain, and other, different nervous operations by the gray matter in another part, even of the cortical substance; so that we had begun to localize in many instances, in a pretty distinct way, certain particular functions in certain particular convolutions, as, for example, the relation of the motor zone in the region of the fissure of Rolando to certain muscular movements. It was also pretty well established that these differences in function and mode of operation were connected with differences in structure; that the gray matter in the anterior and posterior cerebral convolutions possessed regions of nerve cells of different volume and different shape; that whole regions differed from other whole regions in this respect. The same thing was true in the perceptive centers. Dr. Dalton then asked the question: Suppose one examined a brain of which the two sides were very different in form; did

this not imply an exaggeration or a deficiency of certain parts of the brain that were endowed with special functions, and, consequently, differences in the operation of the nervous system? That would seem to be a very natural conclusion from these anatomical facts, and yet he was not at all sure that this conclusion was true. If we took a long brain and a round brain, and examined them, we should, in the first place, perhaps feel sure that the long brain had in it more gray matter in the cortical layer than the round brain had, because a sphere, of course, had a smaller extent of surface in proportion to its bulk than any other form of body. But it must be remembered that the brain did not present a perfectly smooth outline, but was convoluted, and the round brain therefore might have more extensive folding of the convolutions, and, consequently, present as great an amount of cortical gray matter as the long brain. Again, Dr. Dalton showed some skulls, one illustrating the long head and another the round head, and stated that the round head was higher, fuller in the coronal region, whereby it might gain in superficial area. He inferred that this difference in superficial outline at a given portion of two different brains, the one being flattened and the other rounded, did not indicate a deficiency in the former and an over-amount in the latter of special function; for in the former the corresponding convolutions might be shallow but wide, while in the latter they were deep and narrow. There might be the same physiological quality in a particular part of the gray substance, although its position might be varied and even shifted. These facts applied not only to differences in the shape of the brain in different individuals, but also to differences in shape in the two hemispheres of the same brain. As bearing upon this point, Dr. Dalton presented two Indian skulls, in which the form had been changed by the custom of compressing the yielding skull of the papoose, and compelling it while growing to assume a particular shape. It did not necessarily follow that in the one in which the forehead was greatly compressed there was none of that portion of the brain present devoted to intellect (assuming that the intellect had its seat in the anterior convolutions); or that in the other, compressed in the occipital region, there was no development of the posterior lobes and of the corresponding functions.

The President said that about fifteen years ago there was a good deal of discussion among obstetricians with regard to the influence of parturition in giving shape to the human head. He then instituted some investigations at Bellevue Hospital, carried out by the house staff, regarding the shape of the head at birth and for some time afterward. These investigations showed that the head of the infant, while being molded to pass through the pelvic canal, became flattened at portions where there was the greatest pressure, and filled out at portions where the resistance offered by the hard parts was least. For instance, if the occiput presented at the left ilio-pectineal eminence, and the sinciput at the right sacro-iliac synchondrosis, the corresponding diameter of the child's head would after birth be found to be shorter than the opposite diameter. By this means he had often been able to determine, when called in consultation within forty-eight hours after a child's birth, what had been the presentation. This peculiarity of shape gradually disappeared after the birth of the child. Whether it had more or less of permanent influence he was unable to say. There was another point which he hoped Dr. Dalton would be able in the future to develop. It related to the change in the form and size of the adult head at different periods of life. Dr. Barker felt quite sure that the head did continue to change even until late in life. This was noticeable in his own case, as was shown by the latter's measurements during the past twenty-five years.

Dr. J. L. CORNING had been very much interested in Dr.

Dalton's remarks, inasmuch as he had given a most accurate method for determining the form of the head, and especially as he had suggested that function depended upon whether the brain structure was absolutely intact rather than upon whether it presented a particular form. His remarks would show, for example, that pressure applied to the anterior portion of the head would result not in obliteration or atrophy of the brain structure below, but rather in pushing those parts in such a manner that they found room and place elsewhere. This question had its bearings upon another question to which considerable attention and importance had been given by some, namely, with regard to the influence of asymmetry of the skull upon soundness of the mind. Dr. Corning was not disposed to attribute much importance to this peculiarity in cranial outline.

Dr. DAVID WEBSTER thought the statement made by the President—that the adult head might change in form—would account for the fact that his hatter had been compelled to alter the pattern of his hat from time to time, although until this evening he had supposed this difference in size and outline was to be accounted for by a difference in the amount and distribution of the hair.

Dr. DALTON closed the discussion, and said the points brought out by the President were very interesting, and he was glad that attention had been called to them. He finished by saying that he thought we could not conclude certainly from asymmetry or a difference in external form of the adult head that there was a corresponding deficiency or enlargement of the brain underneath. It might exist, but it was uncertain.

AN IMPROVED METHOD IN THE TREATMENT OF CERTAIN FORMS OF SKIN AFFECTIONS.—Dr. P. ALBERT MORROW read a paper on this subject. The method of treatment indicated in the title of the paper consisted essentially in the application of medicinal substances to the skin in the form of fixed adhesive preparations, the object being to confine the application of the drug to the diseased surface alone, and to secure its continued action by long contact with the tissues by means of a practically immovable dressing. The means for carrying out this idea might be stated as follows: Applying the drug as a powder or paste, protected by a coating of collodion or other substance; by mixture with gelatin rendered soft and pliable by means of glycerin; by combining the drug in desired proportion with collodion or gutta-percha; by medicated gutta-percha mixtures applied on cloth cut into suitable forms for easy adaptation to the surface. The author did not presume to offer anything new to dermatologists, who were acquainted with these methods, but an explanation of these procedures might not prove uninteresting to the general profession. Although their introduction dated back one or two years, they might be regarded as substantially new, since they were not described in recent text-books on skin diseases. He did not claim anything original in connection with the method, but would endeavor to present, in as concise a style as possible consistent with clearness, the main features of its application, the conditions in which it was indicated, and the appreciation of its value based upon clinical results, derived partly from his own experience and largely from the experience of others. Few would deny that the introduction of the method marked a decided advance in cutaneous therapeutics.

Dr. MORROW first glanced at the appliances used hitherto for bringing medicines in contact with the cutaneous surface, such as powders, lotions, pastes, plasters, resins, and ointments. Their use was attended with certain disadvantages. For example, powders were easily rubbed off, and, when applied to exuding surfaces, they frequently formed crusts and aggravated the trouble; lotions evaporated, leaving the skin dry and brittle, causing uneasiness and distress; pastes and plasters were of limited application, and, because of their uncleanness, never

were popular; resins acted as irritants; ointments were generally regarded as the most convenient form, but they were easily rubbed off and absorbed by the clothing, and they were also uncleanly, and offended the taste of fastidious patients; again, they had not the consistence to exclude air and thus effectually protect the surface; it was difficult also to restrict the oleaginous substance to the seat of the disease. He did not wish, however, to detract from the real value and practical utility of these methods in some cases; indeed, they were often the most valuable means for cure, and could not be superseded by any other method.

The range of adhesive plasters also was not universal; on the contrary, it was comparatively limited. In many cases a non-localized eruption, a high grade of inflammation, or other features, rendered their application impossible.

Cutaneous pharmacy had not kept pace with methods for internal treatment, but among the valuable drugs with which it had become enriched were chrysarobin, salicylic acid, naphthol, etc. The difficulty in applying some of these to the skin by former methods had led to the invention of the improved methods of which the author would speak. The objectionable features of chrysarobin were its property of staining the hair, skin, nails, and clothing, its irritating effect upon the healthy skin, and the frequent production of erythema and erysipelatous inflammation. This had led Dr. Fox to limit the application of the drug by covering it, when mixed in a paste and applied to the skin, with a piece of gutta-percha tissue rendered adhesive by touching its edges with collodion. This method of application was tedious. Dr. Morrow then referred to the preparations brought forward or used by different physicians for the treatment of skin affections—Auspitz, Mitchell, Fox, Taylor, and others. Drugs mixed with collodion had the advantages of convenience for use, of cleanliness, and of remaining for some time upon the skin. Medicated gelatin, mixed with water and allowed to dry, could be kept for use. When applied to the surface it could be softened with hot water, and covered with glycerin to prevent cracking. Or it might be put up in rolls Auspitz claimed advantages for a solution of refined gutta-percha in chloroform, it being quite durable, elastic, drying more slowly than collodion, and thus admitting of more thorough application, qualities adapting it specially as an application to joints. Gutta-percha plasters constituted a decided improvement upon lead and resin plasters. They were very convenient for application to the diseased skin of the palms, the fingers, the toes, the inter-digital spaces, near the anus, etc. They should be cut into strips admitting of accurate adjustment.

After briefly referring to the advantage with which certain authors had made use of collodion and gelatin adhesive plasters medicated with chrysarobin, salicylic acid, carbolic acid, oxide of zinc, glycerin, etc., in the treatment of psoriasis, chronic eczema, prurigo, and other forms of skin disease, Dr. Morrow gave his own experience, and stated that he had experimented with the preparations in a variety of cutaneous disorders, and for the most part with satisfactory results. He had been enabled to use chrysarobin in psoriasis affecting the face and hairy scalp without danger of injury to the eyes or other delicate parts. In chronic forms of eczematous disease, and even in acute forms, he had used gelatin medicated with 10 per cent. of oxide of zinc with good results. He mentioned the case of a gentleman who had been affected for years with a chronic eczema of the face, genitals, and other portions of the body. The skin of the face was thickened and infiltrated, giving it almost an elephantiasis appearance. The itching was so great that the patient was unable to sleep. Various anti-pruritic ointments had failed to give relief from this troublesome symptom. A single application of gelatin medicated with 10 per cent. of oxide of zinc and 1 per

cent. of carbolic acid gave complete relief. The artificial cuticle began to crack from the drying of the application, and, after a few daily paintings, the fissures almost entirely healed. Over the eyelids the gelatin coating could not be applied, for obvious reasons, and here a bismuth ointment was applied. After a few days one could see the exact line where the gelatin application terminated. Above this line the skin was harsh, and presented its original characteristics, while below it was soft and healthy in appearance.

The author summarized the advantages of adhesive applications by saying that they afforded complete protection to the part to which they were applied and excluded the air; their fixation admitted of greater and more permanent action; by compression they modified the circulatory changes and limited exudation; and they were cleanly. They were of special benefit in cases of tendency to cutaneous hyperplasia from different morbid conditions, in overgrowth of the hard epidermis, in acne rosacea, in chronic eczema, in tinea capitis, in syphilitic lesions, in lupus, possibly in epithelioma, etc.

Dr. E. B. BRONSON particularly admired the conservative manner in which the author had alluded to these new remedies. They had, it was true, become the fashion. The chances were that their use would be overdone. They were suitable to certain classes of disease, and presented certain advantages over other forms of therapeutics. They were not, however, suitable as universal applications. He had experimented with most of the applications referred to, and had arrived at the conclusion that the gelatin preparations possessed comparatively little value. His own experience had been unfortunate. The collodion and gutta-percha preparations were much easier of application, and it seemed to him that they would in time entirely supersede the gelatin preparations. He had used them to a considerable extent, more particularly the gutta-percha preparations, and he could fully indorse all that had been said in their favor by Dr. Morrow. The diseases in which he had found them useful were those in which there was a certain degree of thickening. He did not think that their chief advantage was in their power to protect the parts, for the reason that, where it was desirable to do this, the remedies were not suitable, as they could not be applied sufficiently often. For instance, in eczema it would be necessary to change the application at very frequent intervals, and under those circumstances, although protection was of the first importance, a protective dressing which was fixed and could not be readily reapplied was rather objectionable. It was rather for the exact coaptation of the remedy to the parts that these applications were of special excellence. One advantage, especially in psoriasis, was the deliberate manner with which they could be applied. Gelatin preparations set too rapidly. In using chrysarobin in psoriasis it was specially necessary to rub it thoroughly in. With the gutta-percha solution of Auspitz that could be done. The chief advantage, however, was in that form of eczema in which there was considerable circumscribed thickening, with perhaps some itching. If it were desired to simply stop itching, the surface might be painted over with carbolic acid, putting over this a coat of gutta-percha protective.

Dr. GEORGE T. JACKSON had made use of these methods, and had found trouble in applying the gelatin preparations, and, besides, in the few cases in which he had used it, it caused more disturbance than the other methods. He referred to a form of long gelatin sticks which could be dipped into hot water and applied to the surface. With regard to the collodion preparations, he agreed with Dr. Bronson as to their value in psoriasis and chronic eczema.

Dr. SAMUEL SNERWELL, of Brooklyn, had not had much experience with these methods. He had made use of preparations of collodion with salicylic acid and chrysarobin, and with more

or less satisfaction. He could conceive how the gelatin preparations, as Dr. Bronson had said, might be inconvenient to use, and he thought that there would be many difficulties in the way of applying them to parts covered by hair. He could not see how they could be applied and kept on, and renewed, or, when applied, made as effective as unguents.

Dr. Morrow said the criticism which Dr. Bronson had made of the gelatin preparations might be perfectly reasonable from his standpoint, but he (Dr. Morrow) had not found any inconvenience in their use—that was, no more than the time requisite for heating them and for their application. He thought that their efficacy depended largely upon the exact proportions in which the gelatin, the glycerin, and the active ingredients were combined. For example, the first preparations which were made for him were defective, and, had he passed judgment upon the value of gelatin applications from his first experience, that judgment would have been very unfavorable. But repeated trials produced better results each time. Simply by adding a little water or a little glycerin, as he found to be necessary, the proper degree of consistence could be secured, and, when applied in this way, they certainly formed a perfectly uniform elastic coating, which remained perfect without cracking for several hours, depending upon the location and the degree of motion to which the part was subjected. As to Dr. Sherwell's objection to the application of gelatin to exuding surfaces, he had conceived the same objection theoretically, but practically there was not this objection. For instance, he applied it to a leg affected with eczema rubrum, and the next day it peeled off and there was great improvement; the patient said there was complete cessation of itching. He believed that, when the pharmaceutical processes involved in making the gelatin preparations became improved, they would give greater satisfaction. As to Dr. Sherwell's objection to their application to the hairy parts, he had the hair shaved off, and then found no difficulty in making applications containing chrysarobin, etc. There were certain other theoretical objections to the use of these preparations which had arisen in his mind, but which had not held true when he came to make use of them in practice.

Dr. W. M. CARPENTER then read some resolutions, which were adopted by the Academy, cordially indorsing the aims of the society whose object was to furnish first aid to the injured.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 6, 1884.

THE CLINICAL ASPECTS OF CEREBRAL SYPHILIS.—Dr. HORATIO C. WOOD read the following paper:

In the present article I propose to say very little in regard to the lesions of cerebral syphilis, only making such allusions as are necessary to the clinical study. So much practical importance attaches to the etiological relations of the disorder that I shall discuss these at some length. We do not know why syphilis attacks one portion of the brain rather than another in any individual case; indeed, very rarely can we give any sufficient explanation why the brain is affected at all.

It is naturally to be expected that any cause of ordinary brain inflammation would, when present in a syphilitic person, tend to precipitate a specific cerebral disease. Thus, as thermic fever frequently provokes chronic meningitis, much plausibility attaches to the report of a case in the "*Jour. de méd. et chir. prat.*," Paris, 1879, p. 291, where the cerebral syphilis is ascribed to a sunstroke. Blows and other traumatism would, in a similar manner, be supposed to figure largely as exciting causes of brain syphilis; but I have never met with a case having such relations, and reports of them are rare in literature.

The only records I have found are the cases reported by Dr. Broadbent ("*Lancet*," 1876, ii, p. 741), and a small collection in Huebner's article on Nervous Syphilis, in von Ziemssen's "*Cyclopædia*," xii, 301. I have seen two cases of presumably traumatic spinal syphilis—one in which a polio-myelitis* followed a fall on the ice, and one in which, after a fall from a cart and marked spinal concussion, a local myelitis developed. ("*Univers. Hosp. Dispen. Service Book*," x, 1875, p. 58.)

Various authorities attach much influence to overstudy and other forms of cerebral strain in exciting brain syphilis. Engelstedt is stated to have reported cases having such etiological relations, and Fournier ("*La syphilis du cerveau*") affirms that he has especially seen the disease in professional men and other persons habitually exercising their brains to excess. Neither in private nor in public practice have I met with any instance where over brain-work could be considered a distinct etiological factor, while the wards of the Philadelphia Hospital and the roll of the University Dispensary are full of cases occurring in persons who use not at all the modicum of brains nature has endowed them with. So far as my observation goes, cases of brain syphilis in which any exciting cause can be found are very rare.

The inherited diathesis is less prone to manifest itself in the nervous system than in other portions of the body, but it certainly is capable of causing every type of nervous disease that follows infection from impure coition.

As early as 1779 Dr. Jos. Glenck ("*Doctrina de Morbis Veneris*," Vienna) reported a case of a girl, six years old, cured, by a mercurial course, of an epilepsy of three years' standing, and of other manifestations of hereditary syphilis. Von Graefe found gummatous tumors in the cerebrum of a child nearly two years old ("*Arch. f. Ophthalm.*," Bd. i, erst. Abth.). Professor O. Huebner (Virchow's "*Archiv*," Bd. lxxix, 269) details the occurrence of pachymeningitis hæmorrhagica in a syphilitic infant under a year old. Dr. Hans Chiari ("*Wien. med. Wochenschrift*," xxxi, 1881, 17) reports a case in which very pronounced syphilitic degeneration of the brain-vessels was found in a child fourteen months old. Both Dr. Barlow ("*Trans. of the Path. Soc. of London*," 1877) and Dr. T. S. Dowse ("*The Brain and its Diseases*," vol. i, p. 76) report cases of nerve syphilis in male infants of fifteen months.

It is a matter of great interest to know how late in life nervous disease from inherited taint may develop. We have as yet little light upon the equally interesting and cognate problem as to how far inherited syphilis may produce late in life nervous diseases whose type is not distinctly specific, but it is probable that even after puberty specific nervous affections may appear for the first time in the unfortunate offspring of syphilitic parents. Mr. Nettleship reports ("*Trans. of the Path. Soc. of London*," xxxii, 18) the development of a cerebral gumma in a girl of ten years, and Mr. J. A. Ormerod ("*Ibid.*," p. 14) of a tumor of the median nerve (probably gummatous) in a woman of twenty-three, both the subjects of inherited syphilis. Dr. Thomas S. Dowse (*loc. cit.*, p. 71) details a case of cerebral gumma at the age of ten years, and Dr. Samuel Wilks ("*Lectures on Dis. of the Nerv. Syst.*," Philadelphia, 1878, p. 333) one of epilepsy from inherited taint in a boy of fourteen. Dr. J. Hughlings Jackson reports ("*Jour. of Ment. and Nerv. Dis-*

* In this case the man had symmetrical specific skin eruptions upon the arm, and the symptoms were peculiarly symmetrical; great coldness of both forearms; excessive sweating of the palms; loss of power, so much more pronounced in the extensors than elsewhere that the patient had been treated for lead poisoning and great wasting of the extensor muscles. Evidently a symmetrical syphilis chiefly confined to the anterior spinal cornua.

ease," 1875, p. 516) paraplegia with epilepsy in a boy of eight, hemiplegia in a girl of eighteen, and, in the "Brit. Med. Journal," May 18, 1872, hemiplegia in a woman of twenty-two, the nervous affection in each case being associated with or dependent upon inherited syphilis. Dr. E. Mendel reports ("Archiv f. Psychiatrie," Bd. i, 313) a case of a child who had inherited syphilis, and developed in her fifteenth year a maniacal attack with hallucinations.

Some time since I saw, in an orphan of fourteen, a chronic basal meningitis, and, in the absence of any history, gave the fatal prognosis of tubercular disease, but, to my astonishment, under the long-continued use of iodide of potassium, complete recovery occurred. No signs of inherited syphilis were perceptible, but the specific nature of the inflammation is, in view of the result, scarcely doubtful; it is probable that, in some of the reported cases of alleged recovery from tubercular meningitis, the affection has really been syphilitic.

The relation of inherited syphilis to idiocy appears to be a close one. What rôle the diathesis has in the production of those cases which are dependent upon arrest of development we have no way at present of knowing, but that it very frequently causes chronic hydrocephalus seems to be well established. A number of cases have been reported; they have been collected by Dr. E. Mendel, "Archiv f. Psychiatrie," Bd. i, 309. For a very important paper, see, also, Virchow's "Archiv," Bd. xxxviii, p. 129.

Nervous diseases following acquired syphilitic infection certainly belong to the advanced stages of the disorder. Huebner reports (von Ziemssen's "Cyclopædia," xii, 298, New York edition) a case in which thirty years elapsed between the contraction of the chancre and the nervous explosion. I have seen a similar period of thirty years. Fournier reports intervals of twenty-five years, and thinks from the third to the tenth year is the period of maximum frequency of nerve accidents.

The fact that cerebral syphilis may occur many years after the cessation of all evidence of the diathesis is one of great practical importance, especially when taken in conjunction with the circumstance that the nervous system is more prone to be attacked when the secondaries have been very light than when the earlier manifestations have been severe. I have repeatedly seen nerve syphilis in persons whose secondaries have been so slight as to have been entirely overlooked or forgotten, and who honestly asserted that they never had had syphilis, although they acknowledged to gonorrhœa or to repeated exposure, and confessed that their asserted exemption was due to good fortune rather than chastity.

To show that my experience is not peculiar, I may be allowed to make the following citations: Dr. Dowse ("The Brain and its Diseases," London, 1879, vol. i, p. 7) says: "Often have I had patients totally ignorant of having at any time acquired or experienced the signs or symptoms of syphilis in its primary and secondary stages, yet the sequelæ have been made manifest in many ways, particularly in many of the obscure diseases of the nervous system." Dr. Buzzard ("Syphilitic Nervous Affections," London, 1874, p. 80) reports a case of nervous syphilis where the patient was unconscious of the previous existence of a chancre or of any secondaries. Professor Rinecker also calls attention ("Archiv f. Psychiatrie," vii, p. 241) to the frequency of nervous syphilis in persons who afford no distinct history of secondary symptoms.

This frequent absence of history of specific infection is of great practical importance, and has led me to attach comparatively little weight to the statements of patients. In private practice I usually avoid asking questions which might bring up from the past unpleasant memories, and arrive at the diagnosis by studying the symptoms present.

Although syphilis is most prone to attack the nervous system many years after infection, it would be a fatal mistake to suppose that brain disease may not rapidly follow the occurrence of a chancre. What is the minimum possible intermediate period we do not know, but it is certainly very brief, as is shown by the following cases of this so-called precocious cerebral syphilis: Dr. Alfrik Ljunggrén, of Stockholm, reports ("Archiv f. Dermatol. und Syphilis," 1870, ii, p. 155) the case of H. R., who had a rapidly healed chancre in March, followed in May of the same year by a severe headache, mental confusion, and giddiness. Early in July H. R. had an epileptic attack, but he was finally cured by active anti-syphilitic treatment. Although the history is not explicit, the nervous symptoms appear to have preceded the development of distinct secondaries other than rheumatic pains.

Davaïne is said (Buzzard, "Syphilitic Nervous Affections," London, 1874) to have seen paralysis of the portio dura "a month after the first symptoms of constitutional syphilis." Dr. E. Leyden ("Zeitschrift f. klin. Med.," Bd. v, 165) found advanced specific degeneration of the cerebral arteries in a man who had contracted syphilis one year previously. Dr. R. W. Taylor details a case in which epilepsy occurred five months after the infection ("Jour. of Nervous and Mental Dis.," 1876, p. 38). In the case of M. X., reported by Dr. Ad. Schwarz ("De l'hémiplegie syphilitique précoce," Inaug. Diss., Paris, 1880), headache came on the fortieth day after the appearance of the primary sore, and a hemiplegia upon the forty-sixth day. S. L. (*Ibid.*) had a paralytic stroke, without prodromes, six months after the chancre. A. P. L. (*Ibid.*) had an apoplectic attack seven months after the chancre; A. S., one five months after her chancre. In a case which recently occurred in the practice of Dr. A. Sydney Roberts, of this city, the chancre appeared after a period of incubation of twenty-six days, and two months and eight days subsequent to this came the first fit; eight days after the first the second convulsion occurred, with a distinct aura, which preceded by some minutes the unconsciousness. The further details of this case are not germane to the present discussion, which only requires the additional statement that the attack developed into an unmistakable cerebral syphilis with temporary aphasia, and that convalescence was finally secured by active anti-syphilitic treatment. As the first paroxysm came on without warning, while the man was fishing in the sun, it is not unwarrantable to suppose that a precocious cerebral syphilis was in this case precipitated by exposure to the ordinary causes of sunstroke. This list of cases might be much extended, but it certainly is sufficient to show that cerebral syphilis occurs not very rarely within six months after infection, and may be present in two months.

An interesting observation in this connection is that of Dr. Ern. Gaucher ("Revue de méd.," 1882, ii, 678) of a spinal syphilis occurring six months after the appearance of a chancre.

Syphilographers are in accord in regard to the existence of two pathological varieties of brain syphilis, while some authorities believe in a third form. The most common seat of attack is the membranes; next to these are the brain-vessels; while, as already intimated, there is difference of opinion as to whether the disease ever directly affects the brain-tissue. Reasons will be given later on for believing that the brain-substance may suffer violence from syphilis, but I shall first discuss the clinical aspects of specific disease of the membranes.

Disease of Brain Membranes.—Specific affections of the brain membranes very often declare themselves with great suddenness. The records of the disease present case after case in which an apoplectic attack, a convulsive paroxysm, a violent mania, or a paralytic stroke has been the first detected evidence

of syphilitic cerebral disease. On the other hand, in many instances the symptoms come on slowly and successively. Proper treatment, instituted at an early stage, is usually successful, so that a careful study of these prodromes is most important. They are generally such as denote cerebral disturbance; and, although they should excite suspicion, are not diagnostic, except as occurring in connection with a specific history, or under suspicious circumstances.

Headache, slight failure of memory, unwonted slowness of speech, general lassitude, and especially lack of willingness to mental exertion, sleeplessness or excessive somnolence, attacks of momentary giddiness, vertiginous feelings when straining at stool, yelling, or in any way disturbing the cerebral circulation, alteration of disposition—any of these, and, *a fortiori*, several of them, occurring in a syphilitic subject, should be the immediate signal of alarm, and lead to the examination of the optic discs, for in some cases the eye-ground will be found altered even during the prodromic stage. Of course, if choked disc be found, the diagnosis becomes practically fixed, but the absence of choked disc is no proof that the patient is not suffering from cerebral syphilis. In regard to the individual prodromic symptoms, my own experience does not lend especial importance to any one of them, although, perhaps, headache is most common. There is one symptom which may occur during the prodromic stage of cerebral syphilis, but is more frequent at a later stage—a symptom which is not absolutely characteristic of the disease, but which, when it occurs in a person who is not hysterical, should give rise to the strongest suspicion. I refer to the occurrence of repeated, partial, passing palsies. A momentary weakness of one arm, a slight drawing of the face, disappearing in a few hours, a temporary dragging of the toe, a partial aphasia which appears and disappears, a squint which to-morrow leaves no trace, may be due to a non-specific brain tumor, to miliary cerebral aneurysms, or to some other non-specific affection; but, in the great majority of cases where such phenomena occur repeatedly, the patient is suffering from syphilis or hysteria.

The first type or variety of the fully formed syphilitic meningeal disease to which attention is here directed is that of an *acute meningitis*. I am much inclined to doubt whether an acute syphilitic meningitis can ever develop as a primary lesion; whether it must not always be preceded by a chronic meningitis or by the formation of a gummatous tumor; but it is very certain that acute meningitis may develop when there have been no apparent symptoms, and may, therefore, seem to be abrupt in its onset. Some years ago I saw, in consultation, a man who, in the midst of apparent health, was attacked by violent meningeal convulsions, with distinct evidences of acute meningitis. He was apparently saved from death by very heroic venesection, but, after his return to consciousness, developed very rapidly a partial hemiplegia, showing that a latent gumma had probably preceded the acute attack. On the other hand, an acute attack is liable at any time to supervene upon a chronic syphilitic meningitis. At the University Hospital Dispensary I once diagnosed chronic cerebral syphilis in a patient who the next day was seized with violent delirium, with convulsions and typical evidences of acute meningitis, and died four or five days afterward. At the autopsy an acute meningitis was found to have been ingrafted on a chronic specific lesion of a similar character. In the case reported by Dr. Gamel ("Tumeurs gommeuses du cerveau," Inaug. Diss., Montpellier, 1875), in which intense headache, fever, and delirium came on abruptly in an old syphilitic subject and ended in general palsy and death, the symptoms were found to depend upon an acute meningitis, secondary to a large gumma.

In this connection may well be cited the observation of Dr. Molinier ("Revue méd. de Toulouse," xiv, 1880, 341), in which

violent delirium, convulsions, and coma occurred suddenly. A very curious case is reported by Dr. D. A. Zambaco ("Des affections nerveuses syphilitiques, Paris, 1862, p. 485), in which attacks simulating those of acute meningitis appear to have been produced in a man with a cerebral gummatous tumor by a malarial complication. In such a case the diagnosis of a malarial paroxysm could only be made by the presence of the cold stage, the transient nature of the attack, its going off with a sweat, its periodical recurrence, and the therapeutic effect on it of quinine.

In the cases of *chronic meningeal syphilis* which have come under my observation, most usually after a greater or less continuance of prodromes such as have been mentioned, epileptic attacks have occurred with a hemiplegia, or a monoplegia, which is almost invariably incomplete and usually progressive; very frequently diplopia is manifested before the epilepsy, and, on careful examination, is found to be due to weakness of some of the ocular muscles. Not rarely oculo-motor palsy is an early and pronounced symptom, and a marked paralytic squint is very common. Along with the development of these symptoms there is almost always distinct failure of the general health and progressive intellectual deterioration, as shown by loss of memory, failure of the power to fix the attention, mental bewilderment, and, perhaps, aphasia. If the case convalesces under treatment, the amelioration is gradual, the patient traveling slowly up the road he has come down. If the case end fatally, it is usually by a gradual sinking into complete nerve-paralysis, or the patient is carried off by an acute inflammatory exacerbation, or, as I saw in one case, amelioration may be rapidly occurring, and a very violent epileptic fit produce a sudden asphyxia. In this form of cerebral syphilis death from brain softening around the tumor is not infrequent; but a fatal apoplectic hæmorrhage is rare.

The clinical varieties of cerebral meningeal syphilis are so polymorphic and kaleidoscopic that it is almost impossible to reduce them to order for descriptive purposes. Professor Fournier separates them into the cephalic, congestive, epileptic, aphasic, mental, and paralytic, but scarcely facilitates description by so doing. Heubner makes the following types:

"1. Psychological disturbances, with epilepsy, incomplete paralysis (seldom of the cranial nerves), and a final comatose condition, usually of short duration.

"2. Genuine apoplectic attacks, with succeeding hemiplegia, in connection with peculiar somnolent conditions, occurring in often-repeated episodes; frequently phenomena of unilateral irritation, and generally at the same time paralysis of the cerebral nerves.

"3. Course of the cerebral disease similar to paralytica dementia."

In regard to these types, the latter seems to me clear and well defined, but contains those cases which I shall discuss under the head of cortical disease.

Meningeal syphilis, as seen in this country, does not conform rigidly with the other asserted types, although there is this much of agreement that, when the epilepsy is pronounced, the basal cranial nerves are not usually paralyzed, the reason of this being that epilepsy is especially produced when the gummatous change is in the ventricles or on the upper cortex. In basal affections, the epileptoid spells, if they occur at all, are usually of the form of petit mal; but this rule is general, not absolute. The apoplectic somnolent form of cerebral syphilis, for some reason, is rare in this city; and it seems necessary to add to those of Professor Heubner a fourth type, to which a large proportion of our cases conform. This type I would characterize as follows:

4. Psychological disturbance without complete epileptic convul-

sions, associated with palsy of the basal nerves and often with partial hemiplegia.

The most satisfactory way of approaching this subject is, however, to study the important symptoms in severalty, rather than to attempt to group them so as to make typical, recognizable varieties of the disease, and this method I shall here adopt.

Headache is the most constant and usually the earliest symptom of meningeal syphilis; but it may be absent, especially when the lesion is located in the reflexions of the meninges, which dip into the ventricles, or when the basal gumma is small and not surrounded with much inflammation. The length of time it may continue without the development of other distinct symptoms is remarkable. In one case (Book Y, p. 88, 1879), at the University Dispensary, the patient affirmed that he had had it for four years before other causes of complaint appeared. It sometimes disappears when other manifestations develop. It varies almost indefinitely in its type, but is, except in very rare cases, at least so far paroxysmal as to be subject to pronounced exacerbations. In most instances it is entirely paroxysmal; and a curious circumstance is that very often these paroxysms may occur only at long intervals; such distant paroxysms are usually very severe, and are often accompanied by dizziness, sick stomach, partial unconsciousness, or even by more marked congestive symptoms. The pain may seem to fill the whole cranium, may be located in a cerebral region, or fixed in a very limited spot. Heubner asserts that when this headache can be localized it is generally made distinctly worse by pressure at certain points, but my own experience is hardly in accord with this. Any such soreness plainly can not directly depend upon the cerebral lesion, but must be a reflex phenomenon, or due to a neuritis. According to my own experience, localized soreness indicates an affection of the bone or of its periosteum. In many cases, especially when the headache is persistent, there are distinct nocturnal exacerbations.

It will be seen that there is nothing absolutely characteristic in the headache of cerebral syphilis; but excessive persistency, apparent causelessness, and a tendency to nocturnal exacerbation should in any cephalalgia excite suspicion of a specific origin—a suspicion which is always to be increased by the occurrence of slight spells of giddiness, or by delirious mental wandering accompanying the paroxysms of pain. When an acute inflammatory attack supervenes upon a specific meningeal disease, it is usually ushered in by a headache of intolerable severity.

When the headache in any case is habitually very constant and severe, the disease is probably in the dura mater or periosteum, and this probability is much increased if the pain be local and augmented by firm, hard pressure upon the skull over the seat of the pain.

Disorders of Sleep.—There are two antagonistic disorders of sleep, either of which may occur in cerebral syphilis, but which have only been present in a small proportion of the cases that I have seen. Insomnia is more apt to be troublesome in the prodromic than in the later stages, and is only of significance when combined with other more characteristic symptoms. A peculiar somnolence is of much more determinate import. This may occur in non-specific lepto-meningitis, and in states of altered brain nutrition from senile or other degenerations of the walls of the cerebral vessels, and is, therefore, not pathognomonic of cerebral syphilis, yet, of all the single phenomena of the latter disease, it is the most characteristic. Its absence is of no import in the theory of an individual case.

As I have seen it, it occurs in two forms: In the one variety the patient sits all day long or lies in bed in a state of semistupor, indifferent to everything, but capable of being aroused, answering questions slowly, imperfectly, and without complaint,

but in an instant dropping off again into his quietude. In the other variety the sufferer may still be able to work, but often falls asleep while at his tasks, and especially toward evening has an irresistible desire to slumber, which leads him to pass, it may be, half of his time in sleep. This state of partial sleep may precede that of the more continuous stupor, or may pass off when an attack of hemiplegia seems to divert the symptoms. The mental phenomena in the more severe cases of somnolency are peculiar. The patient can be aroused; indeed, in many instances he exists in a state of torpor rather than of sleep; when stirred up, he thinks with extreme slowness, and may appear to have a form of aphasia, yet at intervals he may be endowed with a peculiar automatic activity, especially at night. Getting out of bed; wandering aimlessly and seemingly without knowledge of where he is and unable to find his own bed; passing his excretions in a corner of the room, or in other similar place, not because he is unable to control his bladder and bowels, but because he believes that he is in a proper place for such act—he seems a restless automaton rather than a man.

Apathy and indifference are the characteristics of this state, and yet the patient will sometimes show excessive irritability when aroused, and will at other periods complain bitterly of pain in his head, or will groan as though suffering severely in the midst of his stupor, at a time too when he is not able to recognize the seat of the pain. I have seen a man, with a vacant, apathetic face, almost complete aphasia, persistent heaviness and stupor, arouse himself when the stir in the ward told him that the attending physician was present, and come forward in a dazed, highly pathetic manner, by signs and broken utterance begging for something to relieve his head. Heubner speaks of cases in which the irritability was such that the patient fought vigorously when aroused; this I have not seen.

This somnolent condition may last many weeks. Dr. T. Buzzard ("Clinical Lectures on Dis. of the Nerv. Syst.," London, 1882) details the case of a man who, after a specific hemiplegia, lay silent and somnolent for a month, and yet finally recovered so completely as to win a rowing match on the Thames.

In its excessive development, syphilitic stupor puts on the symptoms of advanced brain softening, to which it is indeed often due. Of the two cases with fatal result of which I have notes, one at the autopsy was found to have symmetrical purulent breaking down of the anterior cerebral lobes; the other, softening of the right frontal and temporal lobes due to the pressure of a gummatous tumor, and ending in a fatal apoplexy.

This close connection with cerebral softening explains the clinical fact that apoplectic hæmorrhage is very apt to end the life in these cases of somnolent syphilis. Dr. Buzzard's case given above, and others which might be cited, prove, however, that a prolonged deep stupor in persons suffering from cerebral syphilis does not prove the existence of extensive brain softening, and is not incompatible with subsequent complete recovery. As an element of prognosis, it is of serious but not of fatal import.

Paralysis.—When it is remembered that a syphilitic exudation may appear at almost any position in the brain, that spots of encephalic softening are a not rare result of the infection, that syphilitic disease is a common cause of cerebral hæmorrhage, it is plain that a specific palsy may be of any conceivable variety, and affect either the sensory, motor, or intellectual sphere. The mode of onset is as various as the character of the palsy. The attack may be instantaneous, sudden, or gradual. The gradual development of the syphilitic gumma would lead us, *a priori*, to expect an equally gradual development of the palsy; but experience shows that in a large proportion of the cases the palsy develops suddenly, with or without the occurrence of an apoplectic or epileptic fit. Under these circumstances it will be

usually noted that the resulting palsy is incomplete; in rare instances it may be at its worst when the patient awakes from the apoplectic seizure, but mostly it progressively increases for a few hours, and then becomes stationary. These sudden partial palsies probably result from an intense congestion around the seat of disease, or from stoppage of the circulation in the same locality; but, whatever their mechanism may be, it is important to distinguish them from palsies which are due to hæmorrhage. I believe this can usually be done by noting the degree of paralysis.

A suddenly developed, *complete* hemiplegia, or other paralysis, may be considered as in all probability either hæmorrhagic or produced by a thrombus so large that the results will be disorganization of the brain substance, and a future no more hopeful than that of a clot. On the other hand, an *incomplete* palsy may be rationally believed to be due to pressure or other removable cause, and this belief is much strengthened by a gradual development. The bearing of these facts upon prognosis it is scarcely necessary to point out.

Although the gumma may develop at almost any point, they especially affect the base of the brain, and are prone to involve the nerves which issue from it. Morbid exudations, not tubercular nor syphilitic, are very rare in this region. Hence a rapidly but not abruptly appearing strabismus, ptosis, dilated pupil, or any paralytic eye symptom in the adult, is usually of syphilitic nature. Syphilitic facial palsy is not so frequent, while paralysis of the nerve from rheumatic and other inflammation within its bony canal are very common. Paralysis of the facial may therefore be specific, but it is of no diagnostic value. Since syphilitic palsies about the head are in most instances due to pressure upon the nerve trunks, the electrical reactions of degeneration are present in the affected muscles.

There is one peculiarity about specific palsies which has already been alluded to as frequently present, namely, a temporary, transient, fugitive, varying character and seat. Thus an arm may be weak to-day, strong to-morrow, and the next day feeble again, or the recovered arm may retain its power, and a leg fail in its stead. These transient palsies are much more apt to involve large than small brain territories. The explanation of their largeness, fugitiveness, and incompleteness is that they are not directly due to clots or other structural changes, but to congestions of the brain tissues in the neighborhood of gummatous exudations. It is easily seen why a squint will remain when the accompanying monoplegia disappears.

Motor palsies are more frequent than sensory affections in syphilis, but hemianæsthesia, localized anæsthetic tracts, indeed, any form of sensory paralysis, may occur. Numbness, formications, all varieties of paræsthesia, are frequently felt in the face, body, or extremities. Violent peripheral neuralgic pains are rare, and generally, when present, denote neuritis. Professor Huguénin, however, reports ("Schweiz. Corr.-Blatt," 1875) a case in which a severe trigeminal anæsthesia dolorosa had existed during life as the only cerebral symptom, and, death occurring from lung disease, a small gumma was found on the sella turcica pressing upon the Gasserian ganglion.

The special senses are liable to suffer from the invasion of their territories by cerebral syphilis, and the resulting palsies follow courses and have clinical histories parallel to those of the motor sphere. The onset may be sudden or gradual, the result temporary or permanent. Dr. Charles Mauriac (*loc. cit.*, p. 31) reports a case in which the patient was frequently seized with sudden attacks of severe frontal pain and complete blindness, lasting from a quarter to half an hour; at other times the same patient had spells of aphasia lasting only for one or two minutes. In a case still under my care with unmistakable signs of cerebral syphilis, the man was suddenly and unaccountably seized

with complete deafness, which, after some days, disappeared in the course of a few hours. Like other syphilitic palsies, therefore, paralyses of special senses may come on suddenly or gradually, and may occur paroxysmally.

Among the palsies of cerebral syphilis must be ranked aphasia. An examination of recorded cases shows that it is subject to vagaries and laws similar to those connected with other specific cerebral palsies. It is usually a symptom of advanced disease, but may certainly develop as one of the first evidences of cerebral syphilis.

Coming on after an apoplectic or epileptic fit, it may be complete or incomplete; owing to the smallness of the center involved, and the ease with which its function is held in abeyance, a total loss of word thought is not so decisive as to the existence of cerebral hæmorrhage as is a total motor palsy. Like hemiplegia or monoplegia, specific aphasia is sometimes transitory and paroxysmal. Dr. Buzzard (*loc. cit.*, p. 81) records several such cases. Dr. Charles Mauriac ("Aphasie et hémiplegie droite syphilitique," Paris, 1877) details a very curious case in which a patient, after long suffering from headache, was seized by sudden loss of power in the right hand and fingers, lasting about ten minutes only, but recurring many times a day. After this had continued some time, the paroxysms became more completely paralytic, and were accompanied by loss of power of finding words, the height of the crises in the palsy and aphasia being simultaneously reached. For a whole month these attacks occurred five or six times a day, without other symptoms except headache, and then the patient became persistently paralytic and aphasic, but finally recovered.

To describe the different forms of specific aphasia and their mechanism of production would be to enter upon a discussion of aphasia itself, a discussion out of place here. Suffice to say that every conceivable form of the disorder may be induced by syphilis.

Owing to the centers of speech being situated in the cortical portion of the brain, aphasia in cerebral syphilis is very frequently associated with epilepsy. Of course, right-sided palsy and aphasia are united in syphilitic as in other disorders. If, however, the statistics given by M. Tanowsky ("L'aphasie syphilitique") be reliable, syphilitic aphasia is associated with left-sided hemiplegia in a most extraordinarily large proportion. Thus, in fifty-three cases collected by M. Tanowsky, eighteen times was there right-sided hemiplegia and fourteen times left-sided hemiplegia, the other cases being not at all hemiplegic. Judging from the autopsy on a case reported in Mauriac's brochure, this concurrence of left-sided paralysis and aphasia depends partly upon the great frequency of multiple brain lesions in syphilis, and partly upon the habitual involvement of large territories of the gray matter secondarily to diseased membrane. An important practical deduction is that the conjoint existence of left hemiplegia and aphasia is almost diagnostic of cerebral syphilis.

Probably among the palsies may be considered the disturbances of the renal functions, which are rarely met with in cerebral syphilis, and which are probably usually dependent upon the specific exudation pressing upon the vaso-motor centers in the medulla. Fournier speaks of having notes of six cases in which polyuria, with its accompaniment, polydipsia, was present, and details a case in which the specific growth was found in the floor of the fourth ventricle. Cases have been reported in which true saccharine diabetes has been present (consult Servantié, "Des rapports du diabète et de la syphilis. Paris Thèse, 1876), and I can add to these an observation of my own. The symptoms, which occurred in a man of middle age, with a distinct specific history, were headache, nearly complete hemiplegia, and mental failure, associated with the passage of com-

paratively small quantities of a urine so highly saccharine as to be really a sirup. Under the influence of the iodide of potassium, the sugar, in a few weeks, disappeared from the urine.

(To be concluded.)

New Inbentions, etc.

A BOW-LEG APPARATUS FOR DAY AND NIGHT USE.

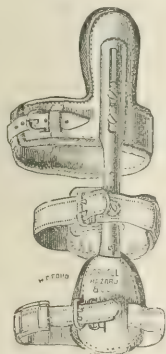
THE cumbersome and unsightly apparatus usually employed in the treatment of bow-legs is so well known that no particular description of it is necessary, except by way of contrast with a recently devised apparatus, intended to be worn by day and during the night. The one commonly used consists of two upright bars of steel, jointed at the knee and ankle, connected at their lower end by means of a stirrup which is fastened to the shank of a shoe, usually made for the purpose, and having a leather-covered steel band which encircles the thigh just above, and another band just below, the knee. To the inner upright, at a point opposite the greatest convexity of the tibia, is fastened an elastic or inelastic band which passes around the leg, and, when properly adjusted, tends to draw the tibia inward toward the upright bar, whose bearings, by means of pads, are the inner condyle of the femur and the internal malleolus. The external upright bar serves only to steady the thigh and leg-bands, and adds to the unsightly appearance of the apparatus as well as to its weight. This can only be worn outside the stocking and during the day, it being necessary, from its construction, to have it secured by rivets to the shank of a stout shoe.

The accompanying cut is of an apparatus devised by Mr. W. F. Ford (of Caswell, Hazard & Co.), being a modification of the single-bar apparatus usually made by him, and of Fraser's bow-leg night-splint.

As will be seen by the cut, it consists of a single straight bar, having at its extremities broad pads, one of which rests on the head of the tibia and the other on the internal malleolus. A steel, leather-covered band secures the bar firmly at the top, and an elastic band keeps the lower end in place. Another elastic band, fastened to the center of the bar, passes around the leg and counteracts the tendency to the outward bowing of the bones. A slot in the upper end of the bar admits of shortening or lengthening the apparatus.

The obvious advantages of this form are lightness, the absence of joints, the non-necessity for its attachment to a shoe, and the fact that it can be worn under the stocking and during the night. To the latter feature is due the marked success attending its use; for, when the child is in a recumbent posture and the legs are relieved of the weight of the body, the yielding bones can be acted upon to much better advantage by the elastic band than when the child is running about.

Dr. B. D. Carpenter, of Jersey City, has given the apparatus a thorough test, and has found it more efficient than the other form and entirely free from the discomfort and other objectionable features of such appliances.



Miscellany.

THERAPEUTICAL NOTES.—*Phenic Acid in the Treatment of Typhoid Fever.*—Dr. F. W. Warvinge ("Nordiskt medicinskt Arkiv," xv, 16, 1883), in the course of an elaborate article on the antiseptic treatment of

infectious diseases, and particularly typhoid fever, states that he began treating the latter disease with phenic acid in 1881, and continued his experiments on a larger scale in 1882, treating fifty-four cases. While these trials do not warrant him in concluding that the drug is the most suitable antiseptic in this affection, they are such as to encourage further experimentation. He generally gives the medicine by the mouth, but also, and not uncommonly, in enemata. In either case, the common dose for adults is fifty centigrammes twice a day. The effects are not modified by the method of administration. A rapid fall of temperature always takes place, but it rises again after a few hours. Most of the patients felt comparatively well during the remission produced by the drug; abundant perspiration almost invariably occurred; the tongue remained moist during the continuance of the medication; the diarrhoea was usually diminished; the appetite was often restored early; the apathetic state was promptly ameliorated; the urine was less frequently albuminous than is generally seen in typhoid fever, and albuminuria was absent in many of the cases of carbouluria; and the course of the disease seemed to be mitigated and slightly abridged by the treatment. Three cases were fatal (being 5.5 per cent. against 11.5 per cent. of those treated on the expectant plan—the latter, too, including the more benign cases); and, in two of the fatal cases, grave complications arose after convalescence had begun, viz., gangrenous parotiditis and perforative peritonitis, while in the third case the patient's condition was miserable in every respect when the treatment was begun.

In spite of the decided antithermic action of phenic acid, the author does not consider this to be its most valuable property, but rather its powerful antiseptic effect, which, he thinks, must be exerted to some extent even in the organism, neutralizing the virus for the time being, arresting its reproduction, and thus aiding the *vis medicatrix nature* in its efforts at elimination—a view that is favored, he remarks, by the fact that the drug produces no effect on the temperature in persons who are free from fever.

The Administration of Paraldehyde.—At a recent meeting of the Paris *Société de Thérapeutique* M. Yvon stated ("Progrès médical," February 2, 1884) that paraldehyde was soluble in alcohol, in glycerin, in ether, and in water, and more soluble in these liquids when cold than when warm; also that it was soluble in water in the proportion of one part to two by weight. He gave the following two formulæ for disguising its taste:

Paraldehyde.....	20 grammes;
Alcohol (90°).....	100 "
Syrup.....	75 "
Tincture of vanilla.....	5 "

Ten grammes of this mixture contain one gramme of paraldehyde, and the mixture is given in doses of twenty to thirty grammes. It may also be prescribed as follows:

Paraldehyde.....	1 to 4 grammes;
Boiled water.....	30 "
Syrup.....	70 "
Tincture of vanilla.....	q. s.

The whole to be taken at once.

THE GOVERNMENT CONTROL OF THE UNITED STATES PHARMACOPEIA.—The February number of the "North Carolina Medical Journal" contains the following vigorous editorial:

A bill has been introduced into the House of Representatives by Mr. Randall, of Pennsylvania, to prepare and publish a national pharmacopœia. The chief of the Marine-Hospital Service, of the Navy, and of the Army, are each to detail two medical officers, and these officers are to invite the American Medical Association and the American Pharmaceutical Association to form committees of not more than three members, and, thus constituted, this board shall proceed to the work of forming a new pharmacopœia, said board having the power to add to its number from time to time as may in its judgment be necessary. Five thousand dollars are to be appropriated for carrying out the work.

No doubt this proposition will strike the profession in this country with surprise, more especially when the history of the pharmacopœia is recalled. From the beginning the labor and expense of the production of this work have been undertaken and carried forward by private

enterprise. The few men who have been interested in it have given their time and labor with an ardor which does credit to the two professions from which they came. Furthermore, they had the wisdom to keep this work alive by their desire to promote the best interest of the profession, and we are quite sure that none would have resisted quicker than they any movement, even by implication, which would have surrendered the work to the general Government. This is more than ever inferable when we remember that in the early conventions the organization was completed before the officers of the army and navy were invited to take seats.

It will be surprising, therefore, to the profession that there should have suddenly arisen an emergency which makes it now more necessary that "a national authoritative standard" should be undertaken by the Government.

The "Medical News," it seems, is able to give a reason. In its issue of February 9th it says: "Unfortunately, since 1880 the United States Pharmacopœia has become a matter of commercial speculation. While a vast amount of intelligent and well-directed labor was bestowed upon it by the Committee of Revision, taken as a whole it is by no means creditable to the science of the country, and complaints as to its inaccuracy and the inconvenience of its methods have been numerous. Not only was it thus inferior to former revisions, but it was padded out into an absurdly large and clumsy volume, and supplied to the profession at an extravagant price wholly disproportionate to its former rate. That this departure from the time-honored course followed in former revisions should awaken wide-spread dissatisfaction was inevitable; and it was to be anticipated that the dissatisfaction would lead the Government to supply a want which had always existed, but which had never before become so imperative as now."

Per contra, we consider it rather fortunate that the committee has been able to produce a volume that could attain to any sort of commercial dignity, instead of preparing revision after revision that did not possess any. We can not agree, either, that the revision was supplied at an extravagant price, for, had this been so, the volume would not have been sought after so eagerly in the book market by such a large number of purchasers—a number far greater than for any previous edition, however cheap. The medical and pharmaceutical professions were willing to pay the price asked for the work, just as they would for anything they thought worth the money.

As to the inferiority of the present revision as compared with previous ones, we will let the "British Medical Journal," p. 700 (October, 1883) speak. The reviewer in that journal has been comparing the British Pharmacopœia, the German Pharmacopœia, and the United States Pharmacopœia (1880), and says: "In comparing the three pharmacopœias, it must at once be conceded that the United States Pharmacopœia is incomparably the best. The previous revision was very poor, but the present revision is a very great improvement on the last. It contains an enormous mass of information, which is, however, chiefly of use to the pharmacist. Nevertheless, it contains almost every possible preparation which can be needed by the medical practitioner."

We think the "Medical News" will be greatly disappointed in not finding "a professional approval" [of the proposed national pharmacopœia] "practically unanimous." Not a large number of men are going to give the matter a thought, if we are to judge by the past. But, of those who do actively consider the subject, we believe that very few will have such poor memories as to overlook the undesirable basis upon which, by the conditions of this bill, the national pharmacopœia would be founded. An expensive and disappointing experiment has already been tried by attempting to combine such incongruous bodies as the Army, Navy, and Marine-Hospital Service, and the result was the wrecking of the National Board of Health, through the ambition of the Marine-Hospital Service. With this disaster staring a confiding profession in the face, it is now proposed to reform the old combination, and to attach enough civilian experts to the board to give it a general scientific character, and so avoid the suspicion of making it a purely government work.

We think when these facts are duly considered, if the profession of medicine and pharmacy are to have any voice in the matter, they will more nearly unanimously reject the proposition.

Another point. The whole movement, as set forth first in the Ran-

dall bill, and in the approving editorial of the "Medical News," has too much of the color of rivalry between New York and Philadelphia not to be understood by non-residents of those favored cities. Some of the gentlemen of the latter city have never been able to disguise their dissatisfaction at the departure of the pharmacopœia from them, and we do not believe a word of complaint against the scientific part of the present revision of the pharmacopœia would have been sounded had the business management been to the liking of the complainants.

But we assert, even if the proposed plan is excellent in every respect, there is no reason why a new pharmacopœia should be compiled at an earlier date than 1890. We are willing to take the opinion of the "British Medical Journal" upon this subject, and repeat that the United States Pharmacopœia is incomparably the best in any language, and a wise Congress will not willingly interrupt the course of a scientific body, pursuing its work zealously and honestly, and at its own expense.

THE BRITISH MEDICAL ASSOCIATION; MEETING AT BELFAST.—The fifty-second annual meeting of the association will be held on July 29, 30, and 31, and August 1, 1884, at Belfast, under the presidency of James Cuming, M. A., M. D., F. R. C. S. P. I., Professor of Medicine, Queen's College, Belfast. The Address in Medicine will be delivered by Sir Andrew Clark, Bart., M. D., F. R. C. P., Physician and Lecturer on Clinical Medicine, London Hospital. The Address in Obstetric Medicine will be delivered by George H. Kidd, M. D., F. R. C. S. I., Master of the Coombe Lying-in Hospital, Dublin. The Address in Physiology will be delivered by Peter Redfern, M. D., F. R. C. S. E., Professor of Anatomy and Physiology, Queen's College, Belfast.

Visitors coming from America to attend this meeting can travel by any of the following routes:

1. A Cunard steamer will leave

(a) New York on Wednesday, July 16th, arriving in Queenstown about the following Thursday week, July 24th.

(b) Boston on Saturday, July 19th, reaching Queenstown the following Monday week, July 28th.

2. A White Star steamer will leave New York on Saturday, July 12th, and on Saturday, July 19th; due at Queenstown about July 20th and July 27th.

3. An Imman steamer will leave New York on Tuesday, July 15th; due at Queenstown about July 23d.

4. An Allan steamer will leave Quebec on Saturday, July 19th; arriving in Londonderry about the 26th or 28th of July.

5. An Anchor steamer will leave New York on Saturday, July 19th; due at Londonderry on July 29th.

Londonderry is 95 miles from Belfast, and trains run daily between the two places. The route from Queenstown to Belfast is from Queenstown to Cork, Cork to Dublin (165 miles by train), and Dublin to Belfast (113 miles).

Communications in reference to the meeting may be addressed to the honorary local secretaries, John Moore, M. D., Alex. Dempsey, M. D., John W. Byers, M. A., M. D.

THE INTERNATIONAL MEDICAL CONGRESS.—The time of the meeting of the British Medical Association at Belfast has been fixed so as not to interfere with the International Medical Congress, which is to begin at Copenhagen on August 10th. A steamer will leave Hull (England) on August 2d and 9th, for Copenhagen; and on August 6th a steamer will leave Leith (Scotland) for Copenhagen. Both these places (Hull and Leith) can be reached on any day by leaving Belfast on the previous evening by the cross-channel steamers. Visitors, after attending the meeting of the British Medical Association in Belfast, will have ample time to travel to Copenhagen for the congress.

THE INTELLIGENCE OF CORONERS' JURIES was aptly illustrated by the verdicts rendered in two cases of alleged poisoning which occurred recently in Ithaca, N. Y. Notwithstanding a chemical analysis revealed in the stomachs of both traces of an unrecognized poison, one, however, in a less degree than the other, the verdict rendered by the jury who investigated the worst case was: "Death from natural causes"; and, in the case which gave the least evidence of poison, death was found to have been caused by some poison unknown to the jury.

Original Communications.

THE FUNDAMENTAL PRINCIPLES OF
MECHANICO-THERAPY IN
HIP DISEASE.*

By MILTON JOSIAH ROBERTS, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN
THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISIT-
ING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND;
PROFESSOR OF ORTHOPÆDIC SURGERY IN THE UNIVERSITY OF VERMONT,
ETC.

UPON my arrival at the hospital of the New York Post-Graduate Medical School a few days since, I found among the out-patients awaiting me two with hip-joint disease. Both of them had been under treatment at my clinic for several months. When they first came under observation both were so crippled in consequence of the disease that locomotion was absolutely out of the question. To one, a short hip splint was applied; to the other, a long hip splint. Immediately thereafter and ever since these patients have been entirely free from untoward symptoms. The support rendered and force exerted by their respective splints at once relieved all pain and made locomotion not only possible, but comfortable. The consequence has been, that they have had the full privileges for play and out-of-door exercise which are ordinarily granted to healthy children.

The appliances worn by these patients were devised to carry out the mechanico-therapeutic indications which I considered to be present in their respective cases; the same, in fact, which I consider to be present in the vast majority of examples of this disease. These instruments were devised for the special purpose of securing the *maximum degree of protection to the diseased areas*, without confinement of the patient in bed. Upon examination, they will be found to be widely at variance with the forms of apparatus hitherto constructed for this purpose. Not only do these instruments differ in form from those hitherto used, but they are constructed to carry out therapeutic ideas of exactly opposite polarity from those generally taught in this country or in Europe—ideas which, as applied to the hip joint in a modified form, were first enunciated, I am proud to say, by our countryman Dr. Henry G. Davis more than twenty-five years ago. For want of satisfactory mechanical devices with which to carry them out, however, they have been almost forgotten. The facts, then, are these:

Two patients were before me who had been under mechanical treatment for hip disease for several months. They had been subjected to therapeutic measures the value of which will be denied by most living authorities. Yet, from the inception of treatment up to that time, they had steadily and surely progressed toward a recovery looking to the *permanent re-establishment of the function of the joint*. Nor had either of them at any time during the course of the treatment experienced undue discomfort or pain. Furthermore, the histories of the two cases referred to only serve to

illustrate the favorable results which have been obtained by the adoption of the same principles of treatment in many examples of analogous arthropathies.

Under these circumstances, it will be interesting to consider somewhat critically the various views which have been advanced regarding the principles of mechanical treatment in hip-joint disease.

Our information respecting the natural history of this malady and its principal clinical phenomena is in a very creditable condition, as the unanimity of professional testimony emphatically affirms.

When, however, we come to study the appearance of its therapeutic canopy, we find the vast dome occupied for the most part with catholician nebule. Chirurgical constellations are only here and there dimly visible, and their relations to the signs of the phylacteric zodiac are so uncertain and capriciously varying that we are almost dispirited with attempting to make a reliable chart of articular therapy, and our remedial cognition seems irrevocably veiled in the lurid light of mysticism.

In undertaking to apply the scientific method to the solution of the difficult question before us, we must bear in mind that, before we can go beyond appearances and intelligently undertake to bring harmony out of apparent discord, we must review and afterward critically consider the concrete phenomena upon which the therapeutics of hip disease have been based; otherwise, we can never hope to rise above the information afforded by our senses. Let us, then, proceed at once to a review of the

THERAPEUTIC IDEAS DERIVED FROM CLINICAL SOURCES.

*Fixation.**—Fixation, or so-called "rest" of joints affected with chronic inflammation, is deemed by the mass of the profession to be one of the prime objects, if not the prime object, to be attained in their treatment. As applied to hip disease, it is perhaps the most universally accepted indication for treatment of any procedure in the whole domain of orthopædic surgery. To all who are studying this side of human disabilities in a scientific spirit, one or all of the following questions will sooner or later present themselves to their minds:

Whence came and what was the nature of the evidence upon which this dictum of "fixation" of chronically inflamed joints has been so firmly established? Is it the slow outcome of the scientific study of the therapeutic indications in hip or other articular diseases? Is it the result of carefully planned, conducted, recorded, and subsequently studied experiments, either upon lower animals or upon human beings? Have sufficient clinical observations bear-

* It is misleading to a clear conception of the question before us to use the words "fixation," meaning immobilization of the joint, and "rest" in the physiological sense, as synonymous terms. By so doing, not only an unproved but a demonstrably false hypothesis is admitted to be true, and will be sure to confuse or deceive both teacher and pupil. Again, a very common and equally calamitous error is the use of the word "rest," meaning the circumstancing of a part or the whole of the body in a condition favorable to the restitution of overworked, exhausted, or diseased tissues, as synonymous with "rest," meaning permanence of position with respect to surrounding parts.

* Read, by courtesy of the Business Committee, before the Medical Society of the State of New York, February 6, 1884.

ing upon this point been made by competent persons, recorded, studied, apparent exceptions satisfactorily explained, and all discernible sources of error studiously avoided, to place this idea so high in the esteem of the profession? Or is it another example of the firm support which blind credulity often gives to authority and to the ideas of antiquity? Can it be that the frequent reiteration of this dictum, unaccompanied by rational explanation or scientific demonstration, has been a sufficient basis upon which to erect a firm professional belief? Have we formed our beliefs first upon the statement of authority, considered the clinical and other evidence afterward with our eyes shut, and then declared all the testimony in favor of our preconceived notions?

I do not raise these questions in regard to the doctrine of fixation of chronically inflamed joints for the purpose of creating a sensation, nor have they for their object the stimulation of therapeutic incredulity. But, where there are so many conflicting statements as to the merits and demerits of certain therapeutic procedures, it behooves all of us who are earnestly searching after the truth to critically interrogate every statement and demand something more than mere *assertion* before we enlist ourselves under the command of any authority.

I speak deliberately when I say we should demand something more than mere assertion; for, as members of a profession desirous of scientific advancement, we are at least entitled to an attempt at a rational explanation of therapeutic procedures, even though a satisfactory demonstration be not yet possible. That mere assertion is the favorite method of acquiring an audience and "explaining" (!) the *rationale* of the remedial measures advocated, the following quotations from high authorities, favoring the doctrine of "fixation" and selected from independent sources, will make manifest:

One author autocratically asserts that, "whatever may be the origin of hip-joint disease, the morbid state is kept up by movement of the joint." Neither preceding nor following this statement are to be found the data for its substantiation. Another asserts that "immobilization is indicated by every feature of the pathology as revealed in morbid specimens." Here again is a simple assertion, and unaccompanied by any explanation as to how it is that abolition of articular motion is such a potent factor in promoting reparative processes. A third author, on the ground of an extended personal experience and the occupancy of an authoritative professional position, seeks to convince his readers of the value of articular immobilization in hip disease solely by avowing it as his *belief* "that the closer one can come to securing perfect rest (fixation), the better the final result will be."

And so I might go on citing the *assertions* of authors advocating "fixation," and, so far as I have been able to learn, without finding in conjunction therewith sufficient reliable data upon which to found such a sweeping generalization. Now, while it is undoubtedly true that certain individuals possess an innate therapeutic genius, or are endowed with that still higher mental quality of being able to *divine* trustworthy remedial measures far in advance of ex-

isting knowledge, this fact does not relieve them from the responsibility of earnestly endeavoring to discover the *rationale* of such measures for the benefit of humanity and the enlightenment of their professional brethren. The mere assertion that fixation of the diseased articulation should be the guiding star to our therapeutic endeavors is simply an evasion of the question, not a solution of it.

For the purpose of getting at the reliability and probable origin of the accepted evidence in favor of fixation, let us suppose ourselves before an aggravated example of hip-joint disease, the patient having not yet been placed under treatment. As he poses in his little chair, on the lounge, or in his mother's lap before us, you will observe him making use of his unaffected lower extremity as a splint for its disabled fellow. He is sitting or lying with his feet crossed, the usual position being with the foot of the unaffected limb placed behind that of the diseased member. The common interpretation of this observation is that the child is instinctively trying to "fix" his diseased articulation so that no motion of it can take place. Approaching our little patient more closely, he evinces a marked degree of apprehensiveness in his facial expression and general demeanor. Especially is this the case if he has been subjected to repeated examinations for diagnostic or other purposes. The apprehension of the little sufferer may be so great that he will even cry out before he is touched; or, if he is old enough and possesses the requisite courage, he will warn you not to touch him. What is the explanation of all this? The child has found that the slightest jar or motion of the limb gives him increased pain. He tells us that this is so, and it requires no great observational powers to see that, under existing circumstances, he is right; for the merest disturbance of the limb at an unexpected moment will cause him to cry out with pain. Is there any conclusion more natural to arrive at than that motion of this articulation should be prevented? In the face of these observations, who has the courage to run the risk of being declared deficient in intelligence by asking for further proof of the truth of this conclusion? The history of articular therapy tells us that few indeed have possessed this courage, or at least thought it worth while to make the demand. Hence it is (no further adduction of evidence being called for) that the doctrine of "fixation" of chronically inflamed joints, based upon a so-called common-sense observation, without experiment and without demonstration, has arisen to the dignity in many quarters of being accepted as a therapeutic maxim.

Methods adopted to Fix the Hip Joint.—For the purpose of supplementing or replacing the supposed intended use of the unaffected limb as an immobilizing splint, and likewise the supposed retentive action of the reflexly contracting muscles, numerous means have been adopted to "fix" or immobilize the joint. These may be conveniently tabulated under two main heads:

I. The patient to maintain the horizontal decubitus.

1. Supine or prone recumbency:

a. Stationary; on an ordinary mattress or a special couch.

b. Portable; *le grand appareil*, wire cuirass, etc.

2. Recumbency and adaptable enveloping* (partial or complete) splints. Such splints pass unsegmented over the affected articulation, or are provided with an adjustable hinge opposite the joint. They are applied:

- a. *En masse*. Exs.: Leather, gutta-percha, felt, thinly sheeted metal, etc.
- b. *In lamina*. Exs.: Plaster-of-Paris, silicate of sodium, gum, starch, etc., in conjunction with cotton or other fabrics.

3. Simple recumbency (without enveloping splints) and linear traction. The traction is exerted by:

- a. Weight and pulley.
- b. Coiled metallic springs or vulcanized rubber cords.

4. Recumbency and non-enveloping† splints:

- a. Unsegmented. Ex.: Thomas's splint.
- b. Segmented. Ex.: Taylor's, Stillman's, etc.

II. The patient permitted to move from place to place.

1. Enveloping (partial or complete) splints:

- a. Unsegmented. Exs.: Plaster-of-Paris, gutta-percha, felt, etc.
- b. Segmented; with proximal and distal portions connected by an adjustable or non-adjustable joint. Ex.: Willard's hip splint.

2. Enveloping splints and crutches, or crutch and cane:

- a. Without high heel and sole on shoe of foot of unaffected side.
- b. With high heel and sole on shoe of foot of unaffected side.

3. Crutches, or crutch and cane, *without* enveloping or other hip splints:

- a. With leg on affected side secured flexed at or near a right angle with the thigh.
- b. With high shoe or pattern worn on foot of unaffected side.

4. Non-enveloping splints, shafts of metal or wood, and with or without adjustable or non-adjustable joints:

- a. With pelvic and femoral portions; single shaft along outer aspect of thigh to point above the knee.
- b. Pelvic portion and single shaft on outer aspect of limb to a point just above the external malleolus.
- c. Pelvic portion with external shaft to point under the foot.
- d. Trunkal portion and external femoral shaft to point above knee.
- e. Trunkal portion and lateral shaft to point above external malleolus, or under the foot.
- f. Cervico-trunkal portion and external shaft to point above or below the foot.
- g. Ischio-pelvic portions with external and internal shafts.
- h. Ischiatic portion with single internal shaft.

In concluding this enumeration of the various means which have been employed to "fix" the hip joint, it should

* All enveloping splints held in position, either by straps or roller bandages, probably owe their efficiency in overcoming reflex spasm more to circum-pelvic and circum-femoral compression, as will hereafter be explained, than to arresting motion of the joint.

† With this form of apparatus the limb is usually enveloped by a firmly applied roller bandage—an unrecognized though potent subduer of reflex muscular spasm.

be observed that, for the most part, the substances made use of have been rigid, or of a non-resilient nature. Hence the quality of the support rendered must be very unlike manual support.

*Extension (traction).**—I wish now to call your attention to another therapeutic idea which has gained a wide acceptance. I refer to extension, or, to use a better term, *traction*, in the line of the deformity. Though the majority of physicians throughout the civilized world implicitly pin their faith to the one idea of fixation, a large number advocate traction in conjunction with it. They have found that, by taking hold of the limb with their hands and supporting it as nearly as possible in one position, and making gentle traction in the line of the deformity, the patient derives increased comfort therefrom; and, furthermore, that the reflex muscular spasm is more quickly overcome than when no tractile force is exerted. So there has been added to the original idea of a "fixation" another one—that of traction ("extension").

Methods adopted for the Co-employment of Fixation and Traction.—To conjointly carry out the ideas of articular immobilization and linear traction by the use of a single instrument, it was necessary to construct an entirely new system of mechanical appliances adapted to the hip and other important joints of the body. Numerous and exceedingly ingenious have been the means adopted and the instruments constructed for the co-employment of these two ideas, and the degree of perfection attained in the construction of splints for this purpose within recent years, especially in America, shows how earnestly and devotedly the subject has been studied.

To fix and make traction on the joint, the maintenance of the horizontal decubitus, in conjunction with diversified forms of adaptable enveloping and non-enveloping splints, as well as nearly every conceivable form of portable splint, segmented and unsegmented, in conjunction with crutches, with or without a high shoe—all provided with the means of exerting interrupted or constant tractile force—has been brought into play. With one or two exceptions, however, all tractile hip-splints have been constructed so as to exert only *rigid* linear traction, which possess none of the resilient or elastic qualities of manual traction.

INQUIRY INTO THE THERAPEUTIC SIGNIFICANCE OF THE CLINICAL PHENOMENA DERIVED FROM AN EXAMINATION OF THE HIP-DISEASED PATIENT, AND THE REMEDIAL MEASURES BASED UPON THEM.

But now let us approach this hypothetical case in a little more critical frame of mind. Let us interrogate every observation, eliminate all discoverable sources of error, weigh every conclusion, and, if, after all this, the result is the same

* The use of the word *extension* to convey the idea of the linear application of force tending to lessen intra-articular pressure is, as has been pointed out by Yale, Judson, and others, open to the serious objection of being more frequently used to convey the idea of that movement of a joint which opposes flexion. On the contrary, the word *traction* conveys exactly the idea which we wish to express, and no other. It, however, should only be used as a generic term, as will hereafter appear, and should be preceded or followed by a word or words designating the quality and direction of the tractile force.

as before, we shall at least have performed our duty as scientific physicians by not having permitted ourselves to form beliefs on the basis of casual observation.

Regarding Fixation.—First, let us direct our attention to the idea of *fixation*. Remembering that

"Errors, like straws, upon the surface flow,"

let us have the courage to ask, Was it the purpose of the little patient, or did he succeed in "fixing" his diseased hip joint by making use of his unaffected limb as a splint? Were not his efforts directed simply to affording *support* to a disabled member rather than to fixing the joint? What significance shall we attach to the existence of reflex spasm of the skeletal muscles passing over the affected articulation? Is it, as is ordinarily affirmed, an effort on the part of Nature to arrest the movement of the joint? Or is this approximation to articular immobility the incidental result of the contraction of muscles in obedience to the supremacy of a physiological law?*

If I take hold of the limb, gently grasping the leg just below the knee with one hand, while with the other, placed upon the mid-posterior aspect of the thigh, I exert additional manual support, I shall find that my little patient is deriving considerable relief therefrom. He no longer manifests a marked degree of apprehension. The transverse and perpendicular furrowing of the forehead is almost obliterated and his facial expression less anxious. Is this result a confirmation of the value of fixing the diseased articulation? It only requires the asking of a second question to answer the first, viz.: Is it possible for *human hands* to hold an object in a "fixed" position? With our hands it is an easy matter to very effectually *support* the disabled member; but we can not exert a fixed or non-resilient force. A still greater augmentation of comfort on the part of the patient can be effected by making firm circumfemoral manual compression in conjunction with efficient support, thereby lessening myotic instability and reflex contractility.

Relief to our patient came, then, not from immobilization of the joint, for with human hands it is impossible to

* The law referred to recognizes the fact that all ordinary striated skeletal muscles are directly connected with, abundantly permeated by, and called into action through the mediation of nerves; and, furthermore, that, so long as the muscle retains its irritability, and the nerves connected with it preserve their conductivity, nerve stimulation must result in muscular contraction. Taking this physiological law for our guidance, and, bearing in mind the teachings of Mr. John Hilton and Schroeder van der Kolk, it is easy to account for the phenomena of reflex muscular spasm in hip and other allied articular diseases, on the ground that the delicate nerve filaments which are supplied to the muscles moving the diseased joint are derived from the same source as those passing into the area of bone involved by the disintegrating inflammation, and that these latter are unduly pressed upon or otherwise irritated, which irritation is transmitted along the course of the nerve-fibers to the muscles, giving rise to their involuntary contraction (shortening).

It may here be remarked that the explanation of the subduction of reflex muscular spasm by the application of a firm roller bandage, as referred to in a previous foot-note, over the contracting muscles, is to be found in the fact that the circumferential pressure thus exerted prevents the transverse bulging of the muscles—a necessary concomitant phenomenon of muscular contraction (shortening).

accomplish this, but from effectually supporting the disabled member with a resilient prop. Hence, to make the supporting part of our mechanical appliances out of *rigid* substances, with the avowed end in view of "absolutely fixing" the joint, can not be the result of a legitimate or logical interpretation of the fact just cited.

The Fixation Dogma abrogated and Linear Traction with Motion substituted.—But to continue with the examination of our little patient. While we hold the limb still in nearly the same position and make gentle traction in the line of the deformity, in conjunction with circumfemoral manual compression, he gradually, as already observed in our preliminary or non-critical examination, experiences a still greater degree of relief, and there is a partial or complete subsidence of the reflex muscular spasm. Not only have I rendered my patient much more comfortable than he previously was, but I now find that I can do with perfect impunity what was before absolutely impossible—viz., *make moderate movement of the affected articulation, and that too without the slightest discomfort to the patient*. Having overcome the reflex muscular spasm, I find, furthermore, that the amount of motion permitted is largely determined by the extent of *intra-* and *extra-articular* inflammatory infiltration. The greater the bulk of these products, the more do they act as a mechanical barrier to motion of the joint.

Methods adopted for the Co-employment of Traction and Motion.—When the correctness of the foregoing observation had been established by numerous tests, there arose the idea of permitting motion of the joint during the continuance of linear mechanical traction. This observation was the signal for renewed exercise of mechanical ingenuity, and the avalanche of novel devices which followed bears emphatic testimony to the eagerness with which such opportunities are embraced. In the mechanical execution of this idea the changes have been pretty thoroughly rung on segmented enveloping splints and non-enveloping jointed splints, with or without crutches, all of which have provision for exerting linear traction and permitting more or less freedom of articular motion. Critically analyzing the quality of the force exerted by these appliances, we again see, as in the former instance, that in nearly all *rigid traction* has been substituted for *manual traction*, which, unlike the former, is resilient, tensile, elastic.

Recapitulatory Review of Mechanico-Therapy, and Summary of Conclusions based upon the foregoing Clinical Phenomena.—From our present standpoint we are able to see that that which was accomplished in our efforts to relieve the patient was not "fixation of the inflamed joint," but the affording of adequate though resilient support, it being physically impossible to immobilize the joint by manual efforts. It was thus demonstrated, by the simplest kind of an experiment upon the living human being, that the idea of "fixing" the joint, which has gained such a firm hold upon the professional mind, has no foundation whatever in the clinical evidence adduced.

Had this analysis of the quality of the force exerted by human hands been made before surgeons began to devise means to mimic it, *rigid* splints would have been less commonly used. The tensile (elastic) support rendered by

human hands, and demonstrated, as every practical surgeon knows, by thousands of satisfactory tests, to be so acceptable to the hip-diseased patient, would never have been supposed to have been successfully imitated by the use of such substances as plaster of Paris, iron, etc., made into heavy splints capable of affording only *rigid* support. The fixation dogma would have been nipped in the bud, and mechanical surgery would not have been throttled at its outset by the false interpretation of a commonplace fact.

In the second place, manual traction, like manual support, is resilient, tensile, elastic. In the execution of this idea by mechanical appliances, a fatal error becomes manifest. The tensile (elastic) linear traction exerted by the hands of the surgeon and repeatedly demonstrated to be all-sufficient for the relief of the patient, and for the rapid subduction of reflex muscular spasm, has, without its quality being analyzed, been replaced in nearly every instance by stiff iron or steel bars, the fixed points of which are separated by a screw, or by means of a ratchet and key, or by slotted bars held together by a screw and nut—mechanisms capable of exerting only *rigid* traction.

Thirdly, on taking hold of the limb of our patient, thoroughly supporting it, and making gentle traction in the line of the deformity, it was found that even an approximation to the immobilization of the joint was unnecessary to the comfort of the patient. Hence it was that surgeons who appreciated this fact sought to make use of it by permitting motion of the joint during the application of mechanical traction. Their object was to avoid the damaging influence of the long continuance of a close approximation to fixation of the joint, and especially the occurrence of ankylosis, a result almost certain to follow continued efforts of this kind in the treatment of chronically inflamed joints, the articular surfaces of which have become eroded. Here, again, surgeons, in nearly every instance, have clung to the enduring fallacy of substituting a rigid or non-elastic force for that exerted by the hands. By permitting motion, as has been done, under the influence of *rigid traction*, the results in some cases have been much more disastrous, in my opinion, than those incident to the employment of rigid fixation splints, or, at least, the employment of those that “fix” and rigidly tract the joint. My reasons for holding this opinion are as follows:

The articular surfaces of joints are not perfectly regular in outline. In health, the surface, though smooth, usually has an undulating contour. The hip joint, it is true, presents surfaces of nearly regular outline, and it is on this account, as will appear further on, that results in hip cases have been almost exclusively adduced in favor of the co-employment of rigid linear traction and articular motion. In moving the joint under the influence of *manual* traction and support, the tensile force exerted permits of the shaft following or adapting itself to the normal articular contours. Not so, however, when motion of the joint takes place under the restrictions of rigid *mechanical* traction. Under these circumstances we have a fixed point above and below the diseased articulation. Between these two fixed points extends a longitudinally adjustable rigid bar with a hinge opposite the affected joint. Increasing the

distance between the two fixed points by lengthening this rigid bar in its adjustable portion will cause it to exert *rigid linear traction*. If now, during the continuance of rigid mechanical traction, the diseased joint be moved, it is plain to be seen that the articular surfaces can not perfectly adapt themselves to each other, for the force exerted by the instrument is rigid, and will not permit of motion outside the narrow limits prescribed by the mechanical hinge of the splint. As the path of motion permitted by the joint of the splint does not exactly coincide with that demanded by the affected articulation, in order that motion shall not be disastrous to its integrity, there result, necessarily, more or less intra-articular pressure and friction from its movement under such circumstances.

It may have been the appreciation of this fact which led Dr. D. Hayes Agnew to dogmatically assert that “motion without articular pressure or friction is simply impossible, and it is not in the power of man to make it otherwise.” If *rigid* splints were our only means of making traction and permitting articular motion, I would willingly subscribe to the declaration of Dr. Agnew. But such is not the case. Instruments have already been devised and placed at the disposal of the profession which permit of articular motion under precisely analogous conditions to those demonstrated by an examination of the patient to be necessary in order that it should take place without giving rise to the least discomfort.

In view of these facts, it is rather remarkable that so sagacious an observer as Dr. Lewis A. Sayre should make the fatal error of substituting *rigid* mechanical traction for *tensile* manual traction. More especially is this the case in view of the fact that his advocacy of articular motion, in conjunction with mechanical traction, is based upon the identical observation to which I have already called attention, viz.: *that, during the continuance of efficient manual support and traction, movement of the affected joint can be made without causing the least discomfort to the patient.*

We have, then, as a natural outcome of a mistaken interpretation of clinical facts, and at a great outlay of time, labor, and money, a system—nay, more, systems—of mechanical appliances which, in the light of the foregoing observations, would appear to be wholly illogical and irrational. By the moderate exercise of our critical faculties we have now robbed the pet ideas *fixation* (rigid support) and *extension* (rigid linear traction) of their former cogency. We have shown that, if we are to make use of the evidence admissible from an examination of the patient as a basis for therapeutic procedures, we must first be certain of the *facts*, and, having demonstrated the reliability of these, should proceed to correlate them by finding out the thought which binds them together.

A brief but valuable lesson in the terminology of mechanico-therapy has been another result of our inquiries. It has been shown that the words support, traction, etc., can no longer be safely or legitimately used as specific terms, but must henceforth, as a result of an advance in knowledge, rank as *generic* terms, requiring qualification when used by such words as rigid, fixed, manual, elastic, tensile, linear, etc.

Again, in drawing our recapitulatory review of clinical

phenomena to a close, we are brought face to face with the unpleasant reality that confidence in the prevailing systems of mechanical therapeutics as applied to hip disease is no longer justifiable.

Finally, we have deduced from clinical sources the following demonstrable facts:

1. That adequate resilient force can be applied to the affected limb of the hip-diseased patient without his experiencing in consequence thereof a feeling of irksomeness.

2. That artificial support the quality of which is tensile (not rigid) is that which is indicated from an examination of the patient as desirable to be employed.

3. That resilient circumferential compression is a potent factor in overcoming or preventing reflex muscular spasm, and probably has more to do with its nullification than "fixation" of the joint, or even simple resilient support.

4. That elastic linear traction is the only kind or quality of traction that has been demonstrated to be serviceable from an examination of the patient, and that it is fully adequate to the rapid subduction of reflex spasm.

5. That the combined use of efficient resilient support, firm tensile circumferential compression, and elastic linear traction, renders the patient more comfortable and more quickly subdues reflex spasm than the independent use of any one or two of these measures; and that, during the continuance of their conjoint use, articular motion can be made without the slightest discomfort to the patient, the extent of such motion being largely dependent upon the bulk and consistence of the inflammatory products in and around the joint.

Therapeutic ideas based upon the above-mentioned facts would not be open to the serious objection of being illogical, irrational, and unscientific. But can we find no further evidence than that deducible from clinical sources with which to strengthen our developing therapeutics?

(To be concluded.)

A CASE OF SUDDEN DEATH FROM PRESSURE ON AN INFLAMED PNEUMOGASTRIC NERVE.

By HENRY D. CHAPIN, M.D.,

ATTENDING PHYSICIAN TO THE OUT-DOOR DEPARTMENT, BELLEVUE HOSPITAL
(CHILDREN'S CLASS).

SUDDEN and unexpected death in the midst of apparently light illness is an event at once appalling to friends and distressing to the attending physician, who, unless able to give a ready and satisfactory explanation of the accident, too often suffers unjustly in reputation. It is thus extremely important, in the interests of the profession, that a careful investigation of all such cases be made, and any cause of death be recorded that may be somewhat uncommon and thus liable to be overlooked. It is often much easier in public than in private practice to obtain autopsies and study out obscure manifestations of disease. The following case that came to my clinic at the Out-door Department of Bellevue Hospital was one of great interest to me, inasmuch as I was unable to make a diagnosis during life, and found

a condition after death that would have been impossible to treat, even if I had been able to recognize it.

Mary D., aged two years and eleven months, was brought by her mother to the dispensary September 5, 1883, to be treated for a slight cough. A physical examination of the lungs proved negative, and I should have dismissed the case as one of simple catarrhal tracheo-bronchitis had not a peculiar sound during respiration attracted my attention and led me to study the case more carefully than is usually practicable in a large dispensary service. The child was well nourished, and quite large for her age. The only point in a good previous history that seemed to show any constitutional taint was the fact that she had reached the age of eleven months before getting her first tooth. The mother stated, however, that she had always been healthy, and when I examined her there was nothing suggestive of a rachitic appearance. Five months before she had an attack of pertussis, and had coughed some ever since. Occasionally she would have some wheezing. The peculiarity about the case was an obstructive sound, heard plainest on inspiration, that could be recognized at a little distance from the child. It was somewhat suggestive of croupy breathing, and yet not exactly like any I have heard. There was not the slightest dyspnoea accompanying this obstruction. An examination of the throat by the finger revealed no swelling or abscess that might have escaped the eye. The temperature was normal. There was no appearance of diphtheria in the fauces, but, fearing an insidious form of diphtheritic croup low down in the larynx, that, although at present causing no inconvenience, might suddenly develop urgent dyspnoea requiring tracheotomy, I directed the mother to keep close watch of the child and report to me at once any untoward symptoms. I was somewhat surprised when she appeared with the child on my next dispensary day, stating that she was just the same, no better and no worse, but with the same peculiar sound in breathing. For the next few weeks she was brought at stated times to the dispensary, and seemed to improve under tonics and simple expectorants. The cough, which had never troubled her very much, was getting a little better. I had excluded the idea of the existence of any pseudo-membrane by the entire absence of dyspnoea, and the fact that the voice was never interfered with in the slightest degree. There had never been any dysphagia. The last time I saw her was on October 8th, when she seemed in a very fair condition, and her mother thought it would not be necessary to bring her any more. The tracheal or laryngeal râle also seemed not quite so distinct. I had taken her temperature a number of times, and always found it normal. On October 10th the mother came to my office in great distress, saying that her child had died very suddenly the previous evening. She ate a hearty supper at six o'clock, after which she seemed in unusually good spirits, laughing and playing with her mother. About 8 P.M. she was taken with a paroxysm of coughing, in the midst of which she was suddenly seized with intense dyspnoea, grew rapidly cyanotic, and rolled over on the floor dead. The breathing had not troubled her in the slightest all day, and her voice was as perfect as ever up to the time when she was attacked by the fit of coughing that just preceded her death. The entire absence of dysphagia up to the last was shown by the fact that the child ate and relished a hearty supper two hours before she died.

Autopsy.—Child well nourished. In order to remove the food and air passages without disturbing their relations any more than possible, I removed the lungs from below, and, cutting across the œsophagus, stripped it up from the vertebral column. While proceeding cautiously in this manner, a large quantity of pus suddenly appeared from the rupture of an abscess situated back of the upper part of the œsophagus. On examining this more

carefully, I found that the abscess was placed within and in front of the first and second dorsal vertebra, which were deeply carious. In fact, all that was left of the bodies of these bones was a mere shell, inclosing masses of dead bone, but the spinal canal had not been invaded. The inner surface of the œsophagus was healthy-looking and intact. The rupture of the abscess had evidently been caused by the removal of the œsophagus, which dragged open the sac.

Miliary tubercles were found scattered through the lungs, also in the trachea, which was injected and covered by mucopus. Just below, and to the right of the abscess, was seen a large and hard cheesy bronchial gland. Between this enlarged gland and the sac of the abscess, which were in close apposition, the right pneumogastric nerve passed and was compressed just where the cardiac plexus of nerves was given off. Just above this position the vagus appeared swollen.

In order to determine exactly the condition of the pneumogastric nerve, I gave the specimen, which had been removed entire, to Professor Welch, who has given me the following as the result of his examination: "A portion of the pneumogastric nerve was removed which was adjacent to a tuberculous abscess and a caseous bronchial gland. To the naked eye, in this region the nerve appears somewhat swollen. The swelling is fusiform in shape. Upon section, the nerve appears gray in color and rather firm in consistence. Examined microscopically, the nerve is found to be the seat of a chronic interstitial neuritis. The whole nerve is surrounded by dense fibrous tissue, which is prolonged into the interior of the nerve in bands which separate the nerve fibers into large and small bundles. Some of the nerve fibers have disappeared, others are atrophied, and others appear normal. The newly-formed connective tissue is rich in lymphoid cells."

The condition here described offers, I think, a satisfactory explanation of the phenomena observed in this case. The inflamed pneumogastric nerve was subjected to continuous pressure between the enlarged gland and the sac of the abscess. During coughing this pressure must have been intensified, probably by a sort of pounding motion, which was sufficient in the last paroxysm to produce sudden cardiac paralysis. The interstitial neuritis of the vagus may have been originally started by pressure, or the inflammation may have spread to the nerve by contiguous inflammatory irritation from the surrounding tubercular tissue. Ross, in his recent work, gives, among other causes of neuritis, strong compression of a nerve and extension of inflammation from surrounding tissues and organs. He states that pleurisy, pleuro-pneumonia, and tuberculosis of the lungs have caused inflammation of the intercostal nerves, as proved by Bean. Under affections of the pneumogastric nerve, he states that the trunk of the vagus is liable to be injured by compression or secondary implication from tumors of the lymphatic glands, abscesses in the neck, or aneurysm of the larger arterial trunks in the chest and neck. He also states that, when the phenomena of irritation of this nerve predominate, the action of the heart is rendered slow and irregular. If there be paralysis of the vagus, however, either unilateral or bilateral, there will be an increase in the frequency of the pulse, which may beat permanently at the rate of 120 to 160 a minute. Lastly, in pure compression of the vagus, death may result from syncope caused by irritation of the inhibitory fibers of the pneumogastric.

It appears, then, that, when the pneumogastric nerve is

irritated or excited by mechanical or other agents, there is slowing of the heart's action, but sudden and complete paralysis may follow if the excitation is too severe. The latter was evidently the cause of death in my case. As no continuous record was kept of the pulse, I am unable to state whether there was any previous slowing of the heart. As nearly as I can recollect, the pulse was about normal when I first saw her. In fact, there was nothing in the case to draw any special attention to the heart's action, as both the pulse and temperature were normal at first. The peculiar obstructive râle heard during respiration had evidently been caused by the abscess pushing forward the œsophagus and encroaching somewhat on the trachea, but not enough to cause any dyspnea. There was no dysphagia, as the œsophagus, which allows of distension, and is surrounded by connective tissue, was subjected to pressure only from behind. Dr. Ripley has lately reported a case in which a gradually increasing and fatal dyspnea was caused by a retro-œsophageal abscess pressing on the recurrent laryngeal nerve ("Archives of Pædiatrics," vol. i, No. 2), and different authors have recorded many cases of dyspnea and spasmodic cough caused by enlarged bronchial glands encroaching on this nerve or on the bronchi; but I have not seen any case recorded in which a gland or abscess produced irritating effects on the cardiac portion of the vagus without involving any other part of the nerve or seriously encroaching on some adjacent structure.

217 WEST FORTY-NINTH STREET.

REMARKS ON EXCISION OF THE ANKLE JOINT, WITH SPECIAL REFERENCE TO TECHNIQUE AND AFTER-TREATMENT.*

BY F. LANGE, M. D.

MR. PRESIDENT AND GENTLEMEN: I am going to present six patients in whom I have excised the ankle joint more or less extensively within the last two years. In five of these cases the operation was done for scrofulous disease. The patients were at the time of the operation from one and a half to nine years old. In one case a gunshot injury gave the indication. The patient is eighteen years old. I shall omit to ventilate the question, how far there is the indication to excise the ankle joint for scrofulous disease. Certainly a great difference of opinion exists regarding this point. A good many surgeons, especially in England and America, are in favor of expectative treatment. During six years of living in New York I have not seen a single excision of the ankle joint except one, which, strictly taken, was no excision; nor have I heard of one; and I am perfectly aware that in children a great deal can be achieved by mere expectative treatment. On the other hand, I hope to prove by my cases that very good results can be reached by excision, that the disease in some cases is undoubtedly shortened by years, and in one or the other may have saved the limb. The prejudice prevailing against excision is mostly based, I

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believe, on deficient knowledge of good after-treatment, and to some degree on inattention to the technique. To these two points I shall principally direct your attention.

Regarding the operative procedure I do not offer anything new. The genius of Langenbeck has presented a method which, in spite of all new, more or less sensational modifications, is by far the best in every respect. It causes the least injury, gives the best guarantee for new formation of bone, if that can altogether be expected, and allows of sufficient insight over the field of operation. To make the operation still more strictly subperiosteal, I remove the periosteum, in all those places where ligaments or tendons are attached, by means of a chisel. In small children, where the epiphysis is mostly cartilaginous, free use can be made of the knife. The bones are removed by means of a sharp chisel also; eventually a cross-cut is made through the periosteum of the tibia below the line of intended separation, to obviate tension and to allow of free access for the chisel. In this way also superfluous denudation of the bone is avoided. The chisel must be sharp and thin, and form, by means of numerous small cuts, a smooth perpendicular surface on the cross-cut of the bone remaining—to be sure, at the expense of the specimen. I always unite the periosteum-cylinders by a few catgut sutures. In all cases the fibula has been excised also. In the traumatic case the astragalus was left untouched, in one case only its articular surface has been removed, in four it has been removed entirely. In one case complete *evidement* of the os calcis was added. I need not say that antiseptic principles, with the permanent antiseptic dressing, decide the wound treatment. The limb is suspended by a long, anterior plaster-of-Paris splint, after the manner of Beely, into which iron rings are fastened. It reaches as far as the middle of the thigh, and keeps the knee in a somewhat flexed position.

Great care must be taken during the wound dressing to keep the foot in such a way that it is not too much pulled forward. The assistant who holds the foot is very apt to commit this blunder. In this way the axis of the bones of the leg falls behind the intended point of the new joint, and you will see in some of my cases that I have not been entirely able to overcome this deficiency. In cases where the whole astragalus has been removed that might not be any disadvantage, because the bones of the leg are then supported by a part of the os calcis which is lying more toward the middle line of the foot and transfers more of the weight of the body upon the heel. In this way I presume the formation of pes valgus later on is avoided with more certainty. Where, however, the astragalus is left, the correct relation of the axis of the leg must be strictly observed. It is good to support the thigh and calf during the wound dressing, and to advise the person who holds the foot to fix it more by tender manipulation and slight extension than to contribute anything to raising the limb.

After the wounds are healed, which can be achieved usually under a few dressings within, let us say, from six to eight weeks (in some of our cases it was four weeks; in one, the most extensive, the wound is not entirely healed after almost five months), the patient gets a light dressing of pasteboard and starch bandages, or silicate, with quite

thin wooden splints interposed. This dressing goes upward to the middle third of the thigh, and reaches down to the toes, keeping the knee slightly bent. It is split anteriorly, and can be removed and reapplied by means of straps and buckles. I should advise cutting out the region of the heel to such an extent that, for reasons mentioned above, the foot can be slightly pushed backward within the dressing. I extend this dressing above the knee in order to avoid rotation of the leg within the dressing.

Now comes a very important stage of the after-treatment, during which, by means of active and passive movements, electricity, and bathing, the muscular action is stimulated. For this purpose the dressing is often removed and exercise done while the patient is in the lying posture, the limb being raised as much as possible. By and by the child is made to push away a hand, which offers a slight resistance. In this way the young parts are accustomed to pressure, and after some weeks they will be so far advanced that, with the dressing, which must fit very accurately, and allow only of a slight weight being thrown upon the foot, they commence to walk. The parents must be inspired with the importance of devoting all their attention to these exercises. After several more weeks (in four of my cases in about two months after the operation) the patient gets a good-fitting double splint, which is inserted in a strong laced shoe, allows of a movement of about twenty degrees in the region of the ankle joint, and reaches as high as the condyles of the tibia. Here it ends in two side-pieces, which form the upper part of a pretty strong leather cylinder. The latter must be adapted very well to the upper half of the leg as far down as the lower edge of the calf. If the patient has sufficient means, it is good to furnish every lateral splint with a mechanism by which the distance between the condyles and the sole can be increased. This can be used very well to correct abnormal pronation or supination. To improve an abnormal dislocation of the foot forward, pass an elastic ribbon across the lateral steel splints, which presses slightly against the posterior surface of the lower end of the tibia and fibula. These apparatuses will probably have to be worn for years. So far, I have not deemed it advisable to remove the splint in any one of the children, though in one the operation was done almost two years ago. Four of these children run about all day, and one would hardly suppose that they had undergone such extensive operations. I will pass around with every one of the patients a schematic sketch illustrating the extent of the operation and the principal seat of the disease; also the specimens, so far as I deemed it worth while to preserve them.

CASE I.—A boy, now three years and nine months old, began to suffer when nine months of age. He came under my care, when not quite two years old, with serofulous disease of the ankle joint from osteitis of the lower end of the diaphysis of the tibia. Total excision, including the astragalus, was performed on the 28th of April, 1882. There was an extensive serofulous cavity in the lower end of the tibia, which had to be removed. The scar above the new-formed tibia is now 10 cm. long. The amount of bone removed was less, but certainly the operation was very extensive. I saw the patient for about ten days, after which time I put him under the care of my friend Dr. A. Buech-

ler, on account of my going to Europe. The wounds healed in two months. The after-treatment was of the kind described. There was very satisfactory new formation of the lower end of the tibia and fibula, and the malleoli were well developed. The astragalus was apparently replaced by a fat, meniscus-like body. There is slight pes valgus, for which the inner side of the sole has to be raised. The functional result is very good. The shortening at present is about 2 cm.

CASE II.—A boy nine years old came under my care four years ago, with a fistula above the malleolus internus, leading to a scrofulous bone cavity in the lower part of the diaphysis, which was scraped out and healed after a transient attack of inflammation in the ankle joint. He was apparently quite well, without complaining about anything, for about a year and a half, when slight fungoid swelling of the joint showed itself. Being absent from New York, I did not see him until five months later, when the swelling had much increased, abscess had formed, and the limb was quite useless. In October, 1882, I performed total excision of the ankle joint, including the astragalus. This was followed by speedy recovery. Very little new formation of bone took place, and there is some abnormal lateral mobility, with considerable shortening—about 4 cm. The femur of the affected side is also shorter than the other by 1.5 cm. The functional result is good. The boy runs about all day, wearing a high-heeled shoe and a double steel splint. The specimen shows very beautifully the progress of the disease from its original seat through the bone substance of the epiphysis to the astragalus, which shows the most destruction at a point opposite the canal which leads through the epiphysis of the tibia.

CASE III.—A boy nine years old had trouble with his right ankle joint from his second year—often repeated inflammations, later on several abscesses, transient apparent recoveries, with some pain and impaired use of the limb remaining. He came under my care September 30, 1883, with an abscess behind the internal malleolus, which was opened. Caries of the joint was ascertained, for which excision was done on the 9th of October. From the astragalus only the articular part was removed, by means of a broad, sharp chisel. Six weeks after the operation the wounds were completely healed. On the 2d of December the shortening was about 3 cm. There is little new formation of bone, and there is slight lateral mobility. The malleoli are narrow, and the axis of the leg falls a little behind its normal termination in the astragalus. The patient walks safely with and without a brace. The excised portion of the tibia shows very deep irregular depressions, some of which at the line of the operation were filled with organized tissue, while others presented a bare, carious surface.

CASE IV.—A girl, six years of age, for three years had slight limping, and now and then pain, but the foot was always used until one week previous to my seeing her, when she presented thickening of the lower end of the tibia and inflammation of the ankle joint. September 1, 1883, I performed complete excision, including the astragalus. There is excellent new formation of bone, and the functional results are good. One interesting point was that seven weeks after the operation, when the patient had not yet walked, a shortening was made out of 1.75 cm. Three weeks later the shortening was made out to be 3 cm. Perhaps it would have been better to delay the walking exercises. The tibia is now 1.5 cm. shorter than that of the opposite side. The new joint is quite firm and reliable, in spite of slight forward displacement of the foot. The principal element of the disease was a supra-epiphyseal, scrofulous osteitis in the tibia.

CASE V.—A boy, three years old, commenced to suffer when nine months old. There was extensive scrofulous osteitis of the calcaneum and the lower end of the tibia, involving the inter-

posed joints and bones. *Evidement* of the os calcis, with complete excision of the ankle joint, including the whole astragalus, was performed. In the os calcis and tibia scrofulous sequestra were found, which you see here. The patient is still under treatment, because repeatedly the granulations have shown a fungoid character and had to be scraped out. The patient commences now to walk with his starch dressing. I expect a good ultimate result, because a good new formation of bone is going on. The patient's mother died of consumption, and his father is said to be consumptive. I shall present the boy a second time when he is able to walk.

CASE VI.—*Excision for Gunshot Injury.*—A young gentleman, eighteen years of age, tall and slender, of a healthy family, was shot by one of his friends, who was walking behind him, while the muzzle of his gun was at a short distance from the patient's heel. The charge was of small bird-shot. The contents of the gun entered the space between the posterior medial edge of the tibia and the tendo Achillis, about two to three centimetres above the internal malleolus, and passed outward and forward, completely shattering the lower end of the fibula. The tibia was also broken into numerous fragments, the tendons of the long flexors were completely torn, and the tendo Achillis was partly carried away, while the tendon of the tibialis posticus was preserved. The posterior tibial nerve and artery were likewise not torn. They were lying imbedded in their bloody-infiltrated sheath, within which a slight pulsation could be detected. I saw the patient about twenty-four hours after the injury, when several pieces of bone had been removed from the fibula. In spite of the extent of the injury, conservative treatment was tried by excision. Fully 10 cm. of the tibia were removed. A large rent extended from the point of injury down to the joint, within the lower end of the tibia. The operation was done in Pine Hill, Ulster County, in August, 1883, and the after-treatment for the first ten days was conducted by Dr. Laur, of this city. Then the patient was brought to New York, and I took charge of him. Extensive necrosis of the soft parts, and to some extent of the periosteum, occurred, so that open antiseptic treatment with through-drainage was resorted to. Complete cicatrization took place in five months. From that time exercise, massage, and electricity were used. The patient is now able to walk, wearing a double splint with a mechanism for extension which takes part of its support on the thigh. He has lately been able to walk from one to two miles, but his foot is still weak and he uses a cane. The present shortening is fully 5 cm. He wears a shoe with a high heel and sole. The new joint is about 2 to 3 cm. above the normal situation, at the point where the periosteum was most extensively torn. Muscular action is still very weak, and there is profuse perspiration about the foot all the time. I hope that after about a year's time the patient will offer a very fair result.

A NEW METHOD OF TREATING LARGE BONE CAVITIES

IN THE LOWER END OF THE FEMUR IN ADULTS.*

By F. LANGE, M.D.

THOUGH in young persons, as a rule, no considerable difficulty is experienced in healing large bone cavities, I have repeatedly found in adults, after extensive operations on the lower part of the diaphysis of the femur, a very obstinate resistance to complete recovery. These large cavities are sometimes not filled up with permanent tissue,

* Read before the New York Surgical Society, February 26, 1884.

Fistulæ remain, which perhaps, after a longer time of careful treatment, show a tendency to heal; but, after some exertion, or traumatism, or constitutional disturbance, they are apt to open again, with renewed suppuration, and occasionally, after long years of more or less suppuration and attacks of inflammation, amyloid degeneration with its fatal consequences occurs. In looking carefully over hospital records one hardly ever fails to find cases recorded of one or the other of these varieties, the majority of the patients probably at last staying away from hospitals, having, as well as their doctors, become tired of medical treatment. In the three cases which I intend to present I have endeavored, by means of a plastic operation, to entirely obliterate the bone cavity. The operation consisted, with slight modifications, in forming an anterior flap from the soft parts covering the lower end of the femur, which has its base either corresponding with the articular line or laterally. Ankylosis existing in a straight position, the patella was excised and the whole anterior wall of the bone cavity was removed. Finally, an oblique section was made, severing the anterior third of the condyles and descending toward the bottom of the bone cavity. In this way the abruptness of its lower edge is replaced by a smooth, oblique plane. The whole bone cavity must be most thoroughly scraped out and disinfected. I recommend the use of a spray of a disinfectant solution forcibly directed against the bone surface. There is nothing that so thoroughly cleanses the surface as a spray employed in this manner. Then the dorsal flap, whose length must correspond to the extent of the cavity, is depressed toward the bottom of the cavity and eventually fastened by a nail or needle. No sutures are applied. Of course, raw surfaces remain above the edges of the flap, which are left to heal by granulation. It is remarkable how the great difference of *niveau* existing in the beginning disappears in the course of months. After a time the flap is again raised. Apparently a new formation of tissue, probably of bony nature, takes place below it. I was led to adopt this plan by a similar method practiced on the head of the tibia, and recommended by my friend Dr. Neuber. So far as I know, no similar operation has been performed on the lower end of the femur. From this very schematic sketch you can appreciate the condition of the parts before and after the operation.

The three cases to which I have referred are very interesting; they occurred in women of from thirty-eight to forty-six years of age. All of them had a serious osteitis of the lower end of the femur above the epiphyseal junction some twenty-five to thirty-five years ago. None of them underwent any operation at that period, at least no operation upon the bone. In two, small particles of bone came away spontaneously, and that, in one of them, more than twenty years after the first attack. All had long intervals of fifteen and more years of health, with a comparatively useful limb, until, in one case from constitutional disturbance after childbirth, and in the two other cases from traumatic causes, renewed inflammation took place at the original point of lesion. In all of these, large cavities existed in the lower end of the diaphysis, the classical seat of osteomyelitis in young persons. In neither case did these cavities con-

tain any dead bone, but here and there broken-down granulations, so that pus lacunæ were formed. Toward the periphery small spicula of bone were found scattered between the granulations; but all the cancellar tissue was softened, rarefied, and pervaded by granulations and small abscesses. The cortical substance was, to some extent, implicated also. The sharp spoon, with but little force, forms a cavity which is extended beyond the limits of the healthy bone. Finally it is arrested by a hard, sclerotic shell. The epiphysis in all of these cases was in a state of advanced fatty degeneration and rarefaction, but not pervaded by granulations.

In the upward direction, in each instance, there was no distinct boundary toward the medullary canal, at least no bony diaphragm, which is the rule in those standard bone abscesses which, I think, clinically and pathologically require a different conception from those just described. Not long ago I presented to this society a case of bone abscess in the lower half of the femur. The patient was about twenty-seven years of age, and his history was very similar to those of the patients now under consideration. In his case, however, the bone abscess was narrow, long, consisting of many small, lengthy pus lacunæ, and reaching almost as far as the middle of the femur. The cortical substance was enormously thickened, and a very small particle of dead bone was found within the cavity. The nature of this case was, I think, exactly the same as in the present ones, but the process of new formation of bone was much more active, while the granulating process within the medullary spaces was not so active as to lead to the formation of a large cavity at the expense of pre-existing bone tissue. Essentially, however, the contents and walls of this cavity were of the same nature. It seems to me that these cases must be kept apart from those bone abscesses which, within a smooth sclerotic bone cavity, covered by a rather smooth, pyrogenic membrane, contain a peculiar creamy pus.

Let me mention that all these patients were born in regions where acute osteomyelitis is more frequently observed; one of them in Switzerland, the two others in the low-lands of northern Germany.

CASE I.—Mrs. P., forty years of age, born in Switzerland, of a healthy family, had severe typhoid fever in her twelfth year, after which she was reduced for a long time to a state of considerable physical feebleness. During this period, and several months after the first-mentioned disease, she had a fall of about four to five feet, striking on her feet. After that she had pain in her left knee for a short time, which very soon returned with great severity during her day's work. A severe inflammation of the bone followed, and was accompanied for a long time with pain and fever. After continued application of poultices, an abscess broke above the knee, on the medial and lateral aspect of the femur. A great deal of pus escaped, and subsequently several small particles of bone came out. After a duration of about half a year, the process now healed, the limb became useful and remained so, except on account of what the patient called "slight rheumatic" pains. There was no ankylosis. She married in her nineteenth year, and has had eight normal labors. In May, 1880, she fell from a staircase and received a severe blow on the left knee, which caused much pain and swelling. About six weeks later I saw her in consultation with Dr. Moeller. At that time there existed an extensive supuration in and about the knee, which required a good many

incisions. It was found that the patella was broken, and that a kind of diaphragm passed from the seat of fracture near the upper edge of the patella toward the condyles, thus separating the upper recesses into two cavities, both of which were filled with pus. In about four or five months the patient was again able to walk with a stiff limb, fistulæ remaining at the anterior aspect somewhat above, and another at the outer aspect corresponding to the lower edge of the external condyle. The knee was in supereextension, and an abnormal lateral mobility remaining for a long time. The sinns led toward the joint in a downward direction. The lower end of the femur was thickened, and the soft parts were tense and immovable, but not particularly painful on pressure. The history of the following two years, during which time the patient was not treated by me, is, in short, this: The sinns showed a tendency to heal, but then, with increasing pain and swelling, and absolute powerlessness for weeks, ample discharge occurred, after which the limb returned to a more normal condition. At last the patient consented to a renewed operation, which I had proposed years before, assuming that the real seat of the suppuration must be in the lower end of the femur. I performed the operation on the 27th of April last year in a way similar to that which I have described. You see here the fractured patella, which does not offer any feature of peculiar interest. A large cavity occupied the lower end of the thickened femur. It was laid open freely. A fistulous tract led through the obliterated joint between the condyles to the posterior surface of the femur. The fistula on the outer aspect communicated with that. The bone here was also softened and in a state of rarefaction. A good deal of it was gouged away. The soft parts on the anterior aspect were not so intimately depressed into the anterior deep bone cavity, nor was that feasible, because in this case I had not yet made the horizontal section of the anterior portion of the condyles. The lower edge of the cavity, therefore, was too abrupt. Gradually complete recovery took place, not, however, without a slight attack of retention about three months after the operation. Still the soft parts, by the process of cicatrization, seem to have been gradually drawn into the cavity. The limb is completely ankylosed, but reliable and useful. Cicatrization was completed in from four to five months after the operation.

CASE II.—Mrs. B., forty-six years of age, of a healthy family, had, in her seventeenth year, a severe inflammation above the right knee, preceded by rigor. The left knee was also affected in the beginning, but improved spontaneously. After two weeks of severe suffering, an ample discharge of pus occurred above the internal condyle. The wound closed itself after several weeks, broke out again after the first trials to walk, and then healed completely, and after a time the limb became useful. Flexion was somewhat impaired, and remained so.

In 1870 she suffered from a lung trouble, which was thought to be consumption. During this time she again had sudden pain in the limb previously affected, with rigors, redness, and swelling. After several weeks an abscess broke at about the old spot. No pieces of bone were discharged. Four months later the patient was able to walk again, but a fistula remained, mobility grew less and less, and finally the leg became quite stiff. In January, 1883, she fell down stairs, and, not being able to take the necessary care of herself, she soon commenced to suffer again from severe pain above the knee joint. On March 31st I was called in consultation with Dr. Balser, and opened, by two long incisions, a large, apparently periarticular abscess on the inner aspect of the knee. Sinuses remained, with repeated attacks of retention, apparently due to an ositic process within the bone. In September the radical operation was done in the manner originally described. A large opening was found to exist on the anterior aspect of the femoral bone, tightly covered

by the quadriceps femoris and upper edge of the patella. The cavity itself reached as far down as the epiphysis, which latter was in a state of advanced fatty degeneration.

Complete recovery took place in about three months. There is almost complete ankylosis. The patient is wearing a brace, in order to promote stiffening. The limb is becoming useful and stronger, and she is able to walk a few blocks, and improves every week.

CASE III.—Mrs. T., thirty-three years of age, had an acute osteitis in her thirteenth year, for which she was under medical treatment for seven months. An abscess broke and a yellowish, "mostly serous" fluid was discharged. For the whole year subsequent to that the leg was stiff and flexed, and she was obliged to use crutches. But under the use of salt-water baths it became almost normal, flexible, and useful. Fourteen years later the patient married, and four years after that she was delivered for the second time. That was in 1881. She had a protracted puerperium, with fever, and became much reduced in strength. Two months after that her thigh became inflamed; she was in bed for nine weeks, and an abscess broke above the inner margin of the patella, but more of a serous, yellowish pus was discharged. That healed, but, after a short time and a renewed inflammation, it again broke. A fistula remained; the knee became quite stiff, but gradually could be used to some extent. In May, 1883, a small piece of bone was discharged, and in June, after a renewed attack of severe inflammation, still another. In September I saw the patient and proposed an operation, which was performed at Bellevue Hospital on the 3d of September. I confined myself to laying bare the fistulous opening which led into the bone on its anterior external aspect, corresponding about to the upper edge of the patella. The tendon of the quadriceps had to be divided. The opening was enlarged and a large cavity scraped out, drained, and treated with the permanent antiseptic dressing. Everything went along nicely for about two months, when renewed retention and inflammation occurred. I then decided to do the radical plastic operation. This was done by my brother, on the 28th of November, under my direction. The defect of bone in this case was, perhaps, the largest of all. The epiphysis was so much fattened and its cancellar tissue so rarefied that it broke under the chisel and was made smooth by means of a knife. The lower part of the diaphysis, the seat of the cavity, was very much thickened, but only a comparatively thin shell of bone remained, into which the large dorsal flap was depressed. Its point was fastened by a steel needle driven into the bone. Recovery took place in about ten weeks, and within about five days the patient has commenced to walk with a brace in order to keep the limb entirely stiff and not to allow of that slight spring-like mobility which exists in this case as well as in that just presented.

The patella, as you see, shows on its posterior surface ositic thickening and a carious surface just about that point where for a long time it has been exposed to the influence of the inflammatory products.

It was peculiar to all of these cases that the adit to the bone cavity was on the anterior aspect, corresponding about to the insertion of the quadriceps femoris.

DENTAL HYGIENE AT SCHOOL.—According to M. Galippe, dental caries is frequent in boys and girls preparing for examination, and may be ascribed to the excessive efflux of blood to the head. Others suppose that the brain makes use of the phosphates which ought to be employed in the formation and growth of the teeth. M. Harlan is of opinion that dental caries is most frequent in young people who work hard, and are very successful in their examinations.—*British Medical Journal*.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Practical Hygiene. By Edmund A. Parkes, M. D., F. R. S., etc. Edited by F. S. B. De Chaumont, M. D., F. R. S., etc. With an Appendix, giving the American Practice in Matters relating to Hygiene, prepared by and under the supervision of Frederick N. Owen, Civil and Sanitary Engineer. Two volumes in one. New York: William Wood & Co., 1884. Pp. xv-368; vii-556.

A Year-Book of Therapeutics, for 1883. Edited by Royal W. Amidon, M. D. New York: G. P. Putnam's Sons, 1884. Pp. viii-250. [Price, \$1.50.]

A Year-Book of Surgery, for 1883. Edited by Charles H. Knight, M. D. New York: G. P. Putnam's Sons, 1884. Pp. xi-197. [Price, \$1.50.]

Some Account of Cardiac Aneurysms. Being the Bradshawe Lecture, read before the Royal College of Physicians of London on August 18, 1883. By J. Wickham Legge, Fellow of the College. London: J. & A. Churchill, 1884. Pp. ix-75.

Die einfache chronische Exsudativ-Peritonitis. Von Dr. Hermann Vierordt, Privatdozent, etc. Tübingen: H. Laupp, 1884. Pp. 141. [Price, \$3.]

London Water Supply. Report, etc., No. XXXVI.

Vaccination Condemned by Medical Men; and Medical Men Condemned by Vaccination. By E. W. Tova. London: "The Charity Record" Office, 1884. Pp. 32. [Price, 3d.]

What Shall We Name It? A Dictionary of Baptismal Names for Children, containing 2,000 Names, with their Meaning, etc. By Mrs. M. J. Stockwell. New York: John C. Stockwell. Pp. 46. [Price, 25c.]

Medical Legislation in the United States. By J. P. Dake, M. D., Nashville, Tenn. [Reprint from the "Hahnemannian Monthly."]

☞ Susceptibility to Malaria; or, Personal Predisposition to Malarial Fevers. By J. P. Dake, M. D., Nashville, Tenn. [Reprint from the "Transactions of the American Institute of Homœopathy."]

Removal of the Ovaries and Fallopian Tubes for Chronic Ovaritis, Ovarian Dysmenorrhœa, Neuralgia, etc., and Recurrent Pelvic Inflammations. (Battley-Tait Operation.) Report of Case. By Thomas H. Hawkins, Denver, Colorado. [Reprint from the "Denver Medical Times."]

Correspondence.

LETTER FROM ST. LOUIS.

An Enormous Ovarian Tumor.—A Suit against a Medical Society.—The St. Louis Protestant Hospital.—College Commencements.

St. Louis, March 3, 1884.

I was told a few days ago, by a prominent physician of this city, of a case which he had seen, by the courtesy of another physician, of what was believed to be the largest ovarian tumor on record. The patient is a mulatto woman between forty and fifty years of age, rather small and slight apart from the tumor. The measurement around the tumor is seventy-two inches. The woman, with the tumor, weighs 306 pounds, and it is estimated that without it she would not weigh over 100 pounds. It is thought that the tumor contains about twenty-five gallons

of fluid. As she sits in her chair, the tumor projects forward beyond her knees, and the muscles of the thighs are atrophied from the pressure. The breasts lie loosely upon the upper part of the tumor. The legs are somewhat œdematous. The woman has a good appetite, is quite comfortable except from the weight and pressure of the tumor, and seems to be quite proud of the tumor, as she has been so often told that it is the largest one known. She states that some years ago she was tapped, and only a small quantity of fluid was removed, which, when it cooled, became firm as stiff jelly. She states further that the tumor is still increasing at the rate of ten or twelve pounds a month. I am told that probably an attempt will be made to remove the woman from the tumor.

Some time ago I mentioned that a practitioner of this city had been expelled from the St. Louis Medical Society, and that he had thereupon entered suit against the committee who had formulated the charges, the sustaining of certain of which had led to his expulsion. He claimed damages to the amount of \$10,000 on each of five counts, making a total of \$50,000. When the case came up, however, he withdrew the suit as to three counts which had been proved before the society's Committee on Ethics, and maintained his suit only on the two counts which that committee had held to be not proved, although they were convinced of the truth of them. One of these counts was a charge that the said physician was an abortionist. He professed to be greatly aggrieved and injured thereby. Within the past fortnight he has been found guilty in one of the courts of performing a criminal abortion, and has since withdrawn his suit against the committee.

Monday morning, at a meeting of the Evangelical Alliance, an association of the Protestant clergymen of the city, action was taken indorsing the movement to establish on a firm basis a Protestant hospital in this city. Up to this time the hospitals of the city have been chiefly under the charge of various Roman Catholic sisterhoods. Of course, I do not here refer to the public institutions conducted by the Health Department. While these Catholic orders have a number of handsome buildings, well equipped and efficiently administered, there have been only three under Protestant auspices—viz., St. Luke's Hospital, which is carried on by the Episcopal churches of the city, and the Good Samaritan Hospital, supported chiefly by the German Lutheran congregations. Besides these, I should also mention a small institution, the Children's Hospital. The professional staffs of the Good Samaritan and Children's Hospitals are composed of homœopathic practitioners, although others are not excluded from treating patients in the former institution. It is believed that the indorsement given to the St. Louis Protestant Hospital by the Alliance and the recommendation of its support by the churches will enable its officers to make such an appeal to the philanthropic people of the city as will give the institution a permanent footing and secure its success. A small work has been carried on for two or three years, which has demonstrated the need for an enlargement of it; and there seems reason to hope now that the opportunity for such enlargement has come.

The commencement exercises of the medical colleges of this city have taken place this week. Tuesday afternoon the Missouri College graduated a class of one hundred and one members, the exercises being held in the Grand Opera House. Tuesday evening the College of Physicians and Surgeons issued diplomas to twenty-six graduates, and Wednesday evening a class of thirty-two were sent out from the St. Louis Medical College. Flowers and music added their charm to the various exercises, and the young men went forth to their life-work with bright hopes and eager anticipations. How many of them will realize them?

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A Weekly Review of Medicine.

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 15, 1884.

THE REGULATION OF MEDICAL PRACTICE IN LOUISIANA.

THE recent annual publication of the Louisiana "Act Relative to the Practice of Medicine and Surgery," a publication required by the terms of the act, calls attention anew to its main provisions. If the profession of the State of New York are to recommend to the next Legislature a bill that shall not only have some chance of becoming a law, but also deserve to acquire the binding force of law, it behooves them to study the provisions and, so far as practicable, the working of laws passed for like purposes by other States.

The Louisiana law does not differ radically from several other State medical laws. No State examination is required, only the possession of a diploma from some "respectable" medical college, and the State Board of Health is made the judge of what constitutes the respectability of a medical college. We can not but regard this as an error. We are aware that several State boards have succeeded in giving a tolerably satisfactory definition of the "good standing" of medical colleges, and have used the powers conferred upon them in this direction with discretion and substantial fairness, and we do not doubt that the Louisiana board will pursue a like course so long as it is constituted as it is at present. In making laws, however, it should be borne in mind that they need shaping so as to leave as little as possible to the discretion of the administrative power. State boards of health are as yet a new thing in this country, and to a great extent they are made up of men whose devotion to sanitation and to the public welfare in general is untinctured by any disturbing spirit. How long this will continue to be the case in any State, it is impossible to say; already some of the State boards have given indications that party politics, to say nothing of less creditable influences, can not be said to be wholly without effect upon their acts. It should be mentioned that the Louisiana act restricts the action of the State board in one respect, in that it forbids any discrimination between colleges founded upon the system of therapeutics taught in them.

The Louisiana law has been in operation only a little more than a year, so that, as it allows of the registration of practitioners of five years' standing who are destitute of a diploma, but little progress should be expected to have been made by it in elevating the character of the profession. It is not a matter to excite surprise, therefore, that the same number of the official newspaper which publishes the text of the law, and the list of practitioners registered under its provisions, should contain also the advertisement of a most arrant quack, who announces himself as "a regular graduate." A partial exemption is extended to practitioners of ten years' standing who

have a diploma—they must make affidavit that they have received a diploma from a regularly incorporated medical college in America or Europe, of reputable standing, but such diploma need not be "vised" by the State Board of Health.

The formalities of the registration are simple and inexpensive. The diplomas of those who fall within the full operation of the law must be indorsed by the board, the original affidavits made by them are retained by the board, and copies, which are to be had for a trifling fee, are legal evidence of qualification in any court of law. It seems to us a wise provision of the law which requires its official publication annually in a newspaper, together with a certified list of the practitioners registered under it.

ANIMAL VACCINATION IN LYONS.

THE public vaccination service of the city of Lyons seems to have fallen somewhat into discredit with the profession of the place, if we may judge from an article published in a recent issue of "Lyon médical." The writer of the article, Dr. Chambard, accounts for this fact in some measure by stating that the efforts of the officials in charge were passed upon prematurely, before they had mastered the technics of animal vaccination. He maintains, indeed, that the results were never so bad as the profession represented them to be—a statement that we can readily believe—and goes on to show that they are now all that could reasonably be expected, that is to say, a success of ninety-six per cent. in primary vaccinations, and of fifty per cent. in revaccinations, in the use of stored vaccine.

Thus far, there is nothing remarkable about the story, except that the percentage of successes attained is not so high as it ought to be, although it must be conceded to be fair. But our curiosity is excited by the recital of the measures to the adoption of which the improvement is imputed, consisting mainly in a novel method of storing what the writer is pleased to consider vaccine. It seems that it is prepared in the form of an electuary (*electuaire vaccinal*), made up of three active (?) ingredients: lymph from the cells of the pock, the crust which surmounts it, and a magma obtained by subjecting the floor of the pock to a process of *raclage*. The crust is reduced to a powder with sugar (to aid in its comminution), and to the moist powder thus formed are added the pulp obtained by scraping the base of the pock, the coagulum from the lymph, and a pinch of gum tragacanth, so as to make a thick mucilage. This mucilage is brought to the proper consistence by the gradual addition of a mixture of equal parts of distilled water and neutral glycerin. Thus concocted, the electuary is kept under a bell-glass, and is said to retain its virtues practically unimpaired for about two weeks. It is sent out stored between plates of glass.

Concerning the only other measure to which the increased success is credited—the adoption of the method of insertion by scarification, instead of that by subcutaneous injection—we have nothing more to say than that it was a step in the right direction. In regard to the electuary, however, we must express our decided conviction that it is not to be commended. In common with most French operators, the gentlemen in

charge of the Lyonnese establishment take vaccine from the calf on the fifth day after its inoculation. At that period the crust, besides being open to the objections that always apply to crusts, is simply a traumatic product; it is not the "concrete vesicle" at all, but the dried blood and serum that flowed out at the time the vaccination was done, together, perhaps, with a re-enforcement to its applied surface in the shape of fluid that may subsequently have exuded as the result of injury to the pock, which fluid is manifestly unfit for inoculation.

As to the mass obtained by scraping the floor of the lesion, it is almost necessarily contaminated with shreds of inflamed tissue, and in many instances can scarcely fail to contain the necrosed tips of the papillæ of the skin. We can not concede that it is wise to rely on any supposed antiseptic power of the glycerin to guard against the possible effects of inoculating with such materials. Vaccinal mixtures are deservedly in disrepute in this country; we are satisfied with the simple lymph. It is easy to understand the improved results attained by the Lyonnese gentlemen, imputing it merely to their increased experience; we are persuaded that their results would be quite as good, if not better, were they to discard their elaborate electrolytic, and use only dried lymph.

THE NAVAL MEDICAL SOCIETY.

On several occasions we have expressed our satisfaction at the quality of the work done at the meetings of the Naval Medical Society. The last number of the "Proceedings" gives gratifying evidence that this work is kept up to the high standard with which the society set out. Dr. Albert L. Gihon contributes two important articles—one entitled "Thirty Years of Sanitary Progress in the Navy; its Present Needs," and the other, "A Case of Pyæmia Supervening upon Hæmorrhoids in a Syphilitic." The first-named paper gives ample illustration of the improvement which has been effected in marine sanitation during the period referred to, as well as of the growing appreciation of the importance of the matter by the line officers and the bureau officials. It is followed by a paper much to the same purpose, by Dr. John M. Browne, which is a tribute to the achievements of a British naval sanitarian of a by-gone generation, Dr. Thomas Trotter, "Physician to the Fleet." So vividly has Dr. Browne portrayed the work of the old pioneer that, although the paper avowedly draws much of its substance from the publications of its subject, it reads quite like a personal reminiscence—so much so that the reader is constantly surprised to find himself under the delusion that Dr. Browne and Dr. Trotter were at least contemporaries.

The contents are completed by a short article, by Dr. J. H. Kidder, on the "Bacillus Tuberculosis." Short as it is, and lacking the advantage of previous preparation, being apparently a report of extemporaneous remarks, written out subsequently, it is nothing less than a gem. On the mere occasion of showing a specimen of the bacillus, Dr. Kidder managed to give a succinct but very sufficient historical sketch of the fungus theory of tuberculosis, an appreciative review of the facts which led up to it, and a remarkably clear summary of the considerations

which should govern our judgment of the theory—all in the course of remarks which take up but three octavo pages of print. If such work as this were oftener done at society meetings, instead of the labored papers and pointless, rambling discussions that are so apt to take up the time of a meeting, the advance of medicine would be immeasurably promoted.

THE NEED OF AN AMBULANCE SERVICE IN PARIS.

It is but a few years since Dr. Henri Nachtel, of Paris, made us acquainted with the beneficent operation of the Night Medical Service of that city. Without loss of time, New York took the hint, and a night service was established. During his stay here Dr. Nachtel was impressed with the usefulness of the ambulance service connected with our hospitals, and, on his return to Paris, took pains to set forth its advantages to the medical profession in that city, the result of which was that a body representing the profession formally recommended to the municipal authorities the adoption of a similar system. Nothing has ever come of the recommendation, however, and Paris is still without any adequate means of affording relief to the victims of street accidents and the like with the promptness that is often an essential element in their treatment.

The need of such a service was lately exemplified in a most pointed way, in the case of a woman who, having been severely injured in the head, was compelled to lie in the street for two hours, and finally had to be taken to an apothecary's shop, and from there to *la Pitié*. This incident having found its way into the newspapers, the medical profession, as usual, came in for a copious amount of criticism, the doctors being accused of cupidity, negligence, cruelty, and various other unlovely qualities, the idea being, apparently, that a medical man is supposed to divine when and where his services are needed, and to present himself instantly and without stopping to inquire as to the chance of recompense. It is certainly unworthy of a great municipality to leave the care of injured and disabled persons to the voluntary services of the few men composing the medical profession, and it is not surprising that one of our Paris contemporaries takes the incident alluded to as a text from which to argue the pressing need of an ambulance service in that city.

MINOR PARAGRAPHS.

THE COUNTY SOCIETY'S "COLLECTIVE INVESTIGATION."

The March meeting of the Medical Society of the County of New York, to be held on the 24th inst., is likely to bring out an important discussion on the subject of intestinal obstruction, unless the time that can be devoted to it turns out to be too limited. There is some danger that this may be the case, inasmuch as the discussion is not to begin until after the paper of the evening has been read. The president having touched upon the matter of the "collective investigation of disease" in his inaugural address, the committee to which the address was referred have issued circulars to the members of the society, asking them to attend the meeting and take part in the discussion, and to send to the chairman of the committee, Dr. David Webster, before the 15th inst., written answers to the following

questions: 1. "How many cases of intestinal obstruction have come under your observation, and what peculiar symptoms were manifested in each case?" 2. "Have you ever performed an operation for the relief of intestinal obstruction due to peritoneal adhesions, and, if so, what was the result in each case?" 3. "Have you treated any cases of intestinal constriction, partial or complete, where the so-called pathognomonic symptoms, such as stercoraceous vomiting and obstinate constipation, were absent?"

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 11, 1884:

DISEASES.	Week ending Mar. 4.		Week ending Mar. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	..	..	3	0
Typhoid Fever.....	10	7	11	6
Scarlet Fever.....	78	19	69	8
Cerebro-spinal meningitis.....	3	3	5	7
Measles.....	41	4	44	5
Diphtheria.....	35	21	44	21

POISONING BY ILLUMINATING GAS has been stated, on the strength of clinical observation, to be more than ordinarily pronounced when produced by the so-called "water gas." Nevertheless, Professor Chandler is reported to have testified before the State Board of Health last Wednesday that it was not more deadly in its effects than coal gas.

THE ACADEMY OF MEDICINE.—At the next regular meeting, on Thursday evening of next week, Dr. Leonard Weber will read a paper on "Locomotor Ataxia and Syphilis."

AN ARTICLE ON INTRA-UTERINE INJECTIONS has been received by the editor of this journal, but it is destitute of a title, and there is nothing to show its authorship. If the author will supply these deficiencies, we shall be happy to publish the paper.

HOWARD UNIVERSITY.—The annual commencement exercises of the medical department were held on Monday evening, the 10th inst., and the degree of doctor in medicine was conferred on a class of twenty-one gentlemen and ladies.

THE ALBANY MEDICAL COLLEGE held its fifty-second annual commencement on Wednesday evening, the 5th inst., the graduating class numbering forty-one. The meeting of the Alumni Association, held the same day, was attended by one hundred and twenty-two members. The following-named gentlemen were elected officers of the association for the ensuing year: President, Dr. Horace T. Hanks, of New York; Vice-Presidents, Dr. George M. Teeple, of Bridgeport, Conn., Dr. Edwin Barnes, of Pleasant Plains, N. Y., Dr. A. B. Burger, of Mechanicville, N. Y., Dr. E. S. Allbee, of Bellows Falls, Vt., and Dr. W. A. Hall, of Fulton, N. Y.; Secretary, Dr. Willis G. Tucker, of Albany; Treasurer, Dr. G. L. Ullman, of Albany; Historian, Dr. J. B. Stonehouse, of Albany; Executive Committee, Dr. Albert Van Derveer, Dr. Lorenzo Hale, Dr. C. B. Herrick, and Dr. Maurice J. Lewi, all of Albany.

THE BALTIMORE MEDICAL COLLEGE held its annual commencement on Thursday, the 6th inst., the graduating class numbering thirteen.

THE UNIVERSITY OF THE CITY OF NEW YORK.—The forty-third annual commencement of the medical department was held at the Academy of Music on Tuesday evening, the 11th inst. The graduating class numbered one hundred and sixty-

four gentlemen. Prizes were awarded to A. J. Meuer, C. J. Kane, and W. E. Kissam, of New York, C. A. Rhodes, of New Jersey, G. A. Thomson, of Indiana, and R. C. Eddy, of Syria. The honor men were as follows: C. A. Rhodes, G. A. Thomson, D. S. Dougherty, R. C. Eddy, W. T. Cleaveland, W. C. Eidenmüller, J. M. Stanley, J. E. Giles, E. M. Parker, W. F. Crandall, H. S. Stearns, J. W. Van Deusen, J. B. Bogart, F. K. Perkins, L. Baumann, W. S. Terrey, J. D. Jones, and J. W. Ellis.

THE ARKANSAS STATE UNIVERSITY.—The annual commencement of the medical department was held on Monday, the 3d inst., and the degree of doctor in medicine was conferred on a class of thirteen.

THE NEW YORK MEDICAL UNION is the new name of the society formerly known as the East River Medical Association, the change having been determined upon, we understand, on account of the society's having outgrown its original territorial limits.

THE ITALIAN MEDICAL ASSOCIATION.—It is announced that the meeting which should have been held this year has been postponed to next year, on account of the exposition to be held in Turin.

THE GERMAN SURGICAL CONGRESS.—It is announced that the thirteenth congress of the Deutsche Gesellschaft für Chirurgie will be held in Berlin from the 16th to the 19th of April. So far as the programme has been published, it includes the following papers: "On the Physiological Connection between the Spleen and the Thyroid Gland," and "On the Treatment of the Paraplegia of Spondylitis," by Dr. Zesas, of Zürich; "On Ferment-Intoxication occasioned by a Blood-Cyst," by Dr. Cramer, of Wiesbaden; and "On Massage," by Dr. Zabludowsky, of Berlin.

A THREAT TO ROB A GRAVE is said by the Philadelphia newspapers to have been made lately by a physician of that city, the case being that of a lad twelve years of age, who died the subject of congenital cyanosis. The rumor probably has no more foundation than an expression of regret on the doctor's part that the parents would not consent to a post-mortem examination.

DR. ALFRED HOSMER, OF WATERTOWN, MASS., is reported to have resigned the position of medical examiner for the county of Middlesex.

THE LOSS OF AN OLD MEDICAL BOOK.—We learn from our London contemporaries that a book entitled "Speculum Matricis," written by Woolveridge, and published in Dublin in 1670, is supposed to be the earliest original treatise on midwifery published in the English language, and that until within the past two years the only copy of the book known to be in existence was the property of Dr. Fordyce Barker, of New York, who, at the request of the Obstetrical Society of London, undertook to have a copy made of it for the society. He employed a poor Frenchman, named Emile Bourgeaud, to make the copy, but before the work was completed Bourgeaud left this country for Brazil, and has been lost sight of. As he took the book with him, it is lost to the world for the present, but it is hoped that some member of the profession may yet succeed in obtaining a trace of it. It is now stated by Dr. J. H. Aveling that there is a copy of the book in the Radford Library of St. Mary's Hospital, Manchester, England.

THE TRICHINIASIS QUESTION IN FRANCE.—It seems likely now that a system of inspection of American pork by the French themselves will be settled upon, and that, pending the arrangement of the details, the present prohibition will be relaxed.

THE GARFIELD MEMORIAL HOSPITAL.—It is announced that a sum of about \$3,000 is still needed to equip the hospital for the accommodation of thirty patients, that a portion of this amount has been subscribed by a few ladies of Washington, and that an entertainment will be given in that city for the benefit of the hospital on the evening of Easter Monday.

ADULTERATED MUSTARD has been found in the markets by Dr. Edson, one of the inspectors of the Health Department of the City of New York, and the board entertains the suspicion that the mustard in question is injurious; but the manufacturer, having been cited to appear, asserts that such is not the case.

AN APPOINTMENT.—Dr. John H. Nesbitt is reported to have been appointed one of the surgeons to the Police Department.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 2, 1884, to March 8, 1884:*

PERRIN, GLOVER, Lieutenant-Colonel and Surgeon. Medical Director, Department of Dakota. Leave of absence extended twenty days. S. O. 23, Headquarters Division of the Missouri, March 5, 1884.

BILL, J. H., Major and Surgeon. Granted leave of absence for one month. Par. 1, S. O. 20, Headquarters Department of the Platte, March 3, 1884.

BAILY, J. C., Major and Surgeon. Granted leave of absence for one month, to take effect on or about March 1, 1884, with permission to apply to the Adjutant-General of the army, through Division Headquarters, for an extension of three months. S. O. 24, Headquarters Department of Texas, February 26, 1884.

BACHE, DALLAS, Major and Surgeon. Leave of absence extended seven days. Par. 1, S. O. 43, Headquarters Department of the East, March 5, 1884.

FISHER, WALTER W. R., and **POLHEMUS, ADRIAN S.,** First Lieutenants and Assistant Surgeons. Assigned to duty in Department of California.

STEPHENSON, WILLIAM, BORDEN, WILLIAM C., and **CHAPIN, ALONZO R.,** First Lieutenants and Assistant Surgeons. Assigned to duty in Department of the Platte.

ROBERTSON, REUBEN L., and **EDIE, GUY L.,** First Lieutenants and Assistant Surgeons. Assigned to duty in Department of Texas.

CROSBY, WILLIAM D., First Lieutenant and Assistant Surgeon. Assigned to duty in Department of Arizona.

GANDY, CHARLES M., First Lieutenant and Assistant Surgeon. Assigned to duty in Department of the East.

PILCHER, JAMES E., First Lieutenant and Assistant Surgeon. Assigned to duty in Department of Dakota. Par. 4, S. O. 55, A. G. O., March 6, 1884.

STEPHENSON, WILLIAM, First Lieutenant and Assistant Surgeon. Ordered to Fort Niobrara, Nebraska, for temporary duty, on completion of which to return to his station, Fort Omaha, Nebraska. Par. 4, S. O. 20, Headquarters Department of the Platte, March 3, 1884.

FISHER, WALTER W. R., First Lieutenant and Assistant Surgeon. Assigned to duty at the Presidio of San Francisco, Cal., from 18th inst.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Winfield Scott, Cal., from 18th inst. S. O. 23, Par. 1 and 2, Headquarters Department of California, February 21, 1884.

PHILLIPS, JOHN C., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Fort Warren, Mass. Par. 2, S. O. 39, Headquarters Department of the East, February 23, 1884.

BENHAM, R. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort A. Lincoln, D. T., and ordered to Fort Sisseton, D. T., for duty. Par. 1, S. O. 22, Headquarters Department of Dakota, February 26, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending March 8, 1884:*

AMES, H. E., Passed Assistant Surgeon. From the Colorado, and ordered to the Greely Relief steamer Bear.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, March 17th:* Medico-Chirurgical Society of German Physicians.

Tuesday, March 18th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburg (N. Y.) Medical Association.

Wednesday, March 19th: Roman Medical Society (private); Medical Society of the County of Allegany, N. Y.; Newark (N. J.) Academy of Medicine.

Thursday, March 20th: New York Academy of Medicine.

Saturday, March 21st: New York Medical and Surgical Society (private).

OBITUARY NOTES.

OTIS BULLOCK, M. D., of WARREN, R. I.—Dr. Bullock, an old and respected physician, died March 6th, in his seventy-ninth year. He was a native of Sterling, Conn. His father practiced medicine until about eighty years of age, most of the time in Rehoboth, Mass., and died at the age of ninety-two years. Dr. Bullock graduated at Harvard Medical College in 1832, was president of the Rhode Island Medical Society for several years, and was a member of the American Medical Association for twenty-five years. He maintained an untarnished reputation, and was highly respected and beloved both as a physician and as a man.

DR. ALEXANDER WOOD, OF EDINBURGH.—The death is reported of Alexander Wood, M. D., F. R. S. E., F. R. C. P. E., one of the prominent members of the Edinburgh profession. The deceased gentleman was a contributor to various departments of medical literature in the course of a long and honorable career. In this country he was best known as the chief promoter, if not the inventor, of the method of medication by the use of the hypodermic syringe.

Letters to the Editor.

IMBEDDING IN CELLULOID.

To the Editor of the New York Medical Journal:

SIR: Will you or some of your correspondents, who are versed in microscopy, kindly explain the steps of the process of imbedding in celluloid for section-cutting?

Faithfully yours,

A. L. O.

POTTER'S "COMPEND OF MATERIA MEDICA."

SALT LAKE CITY, March 1, 1884.

To the Editor of the New York Medical Journal:

SIR: In your issue of the 23d ult. my "Compend of Materia Medica and Therapeutics" is blamed for an error as to the morphine dose (stated as half a grain), under the therapeutics of cinchona. I beg to call attention to the fact that the prescription is taken from a very recent authority, viz., "Bartholow's

Materia Medica," and has gone through five editions of that book (see last edition, page 183). As my Compend is based on the principal text-books, I am not responsible for this statement, but do plead guilty to remissness in not placing a note of interrogation after it. I pride myself on the correctness of my work, and hence will thank you if you will give publicity to this, as your review may convey the idea that the book is carelessly compiled.

Very truly yours,

S. O. L. POTTER.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of March 6, 1884.

R. A. CLEMMANN, M. D., President, in the chair.

CORRECTION OF A MISSTATEMENT.—DR. WILLIAM GOODELL made the following correction: "At the last meeting of this society I made a misstatement with regard to that distinguished ovariotomist, Mr. Tait, which I greatly regret, and which I wish here to correct. I was misled by some remarks made by Dr. Sutton at the last meeting of the American Gynecological Society. These were so reported as to convey to my mind the impression that Billroth was the only European operator who did not refuse any case of ovarian tumor, however unpromising it was, and that Mr. Tait—to borrow Dr. Sutton's language—'does not remove many large tumors, those which weigh from sixty to sixty-five pounds, with extensive adhesions, etc.' In quoting this, by a careless slip of the pen I changed the word 'many' into 'very,' and, in addition, I wholly misapprehended the purport of the sentence. Dr. Sutton has since, in the 'Medical News' of February 23d, explained that he did not mean that Mr. Tait selected his cases, for he was 'not aware that this British ovariotomist refused to remove a tumor because it was large'; but that 'Mr. Tait had the largest line of ovary and tube cases, and the shortest line of big ovarian cysts, of any man I [Dr. Sutton] visited in Europe.' In making this correction here, I wish to repair the injustice which I unwittingly did Mr. Tait before this society."

EXTRA-OVARIAN CYST.—DR. GOODELL then exhibited a specimen with the following history: The lady, aged twenty-eight, the mother of four children, had a miscarriage early in last October. At that time her family physician discovered the tumor. It grew slowly, but gave the lady so much inconvenience from pain and pressure that she was brought to his office late in the following December. It was not large, but was very sensitive, and was diagnosed to be an ovarian tumor. Both ovaries were removed early last February, and the lady recovered promptly. The peculiarities of the cyst were to him unique. The ovary lay to one side of a thick-walled cyst, and at such a distance from it that the cyst could have been removed without injury to the ovary. The latter was, however, extirpated along with the cyst, because it was diseased. Hitherto all parovarian cysts which he had encountered had been thin-walled and had contained a clear fluid. But this one had thick walls and contained a turbid, brown fluid. It started from the left broad ligament, and was adherent to the bladder, omentum, and abdominal wall. Another point of interest was the fact that the right ovary had doubled its size from follicular degeneration, and yet pregnancy had taken place.

Dr. ROBERT P. HAREIS suggested the possible existence of a third ovary as the starting-point of the tumor. He also thought that the presence of a third ovary might explain the persistence

of the menstrual flow in some cases after the operation of double ovariectomy.

COCCYGOdynia.—DR. GOODELL also exhibited a coccyx removed for coccygodynia. The patient had met with a fall down stairs some years previously, and the injury was followed by a vaginal abscess of some kind. She had all the classical symptoms of a very bad coccygodynia, and had fallen into a nervous condition which bordered on insanity. Dr. Goodell had intended merely to sever the nervous attachments of the coccyx by the sweep of a tenotomy knife, but, after the patient had been put under ether, the tip of the bone was found unnaturally movable and giving distinct crepitation. The loose bone was therefore removed, and, as the articulating surfaces were found rough and denuded, the whole coccyx was removed with a bone forceps. Great relief followed this operation.

Although he had seen very many cases of coccygodynia, this was the first case in which he had operated. In a very few traumatic cases he had wished to operate, but had not been permitted to do so. The vast majority of these cases were, in his experience, those of nervous or neuralgic coccyx, and they got well in his hands under rest, massage, electricity, and appropriate constitutional treatment. The great difficulty, in cases of severity, was to decide between the nervous mimicry of the disease and pure traumatic coccygodynia in which positive lesions had been sustained and their effects had not yet passed away—as, for instance, in a sprained or a fractured coccyx, or in a rheumatic, a gouty, or an indamed coccyx. There was yet another difficulty in the way of diagnosis, for sometimes an injury received by an hysterical woman was followed by local nervous phenomena which would last long after the original lesion had been cured. For example, on one occasion he had been so greatly deceived in the diagnosis between traumatic and nervous coccygodynia as to make him very cautious in resorting to the use of the knife. A highly intellectual lady, who spent her leisure in reading metaphysical works, received an injury to her coccyx by the sudden "bucking" of a horse on which she was mounted. She was at that time suffering from nervous prostration, and the blow started up very exacting coccygeal symptoms. Dr. Goodell found retroversion and a prolapse of both ovaries. These dislocations were remedied, and the patient was put under a vigorous constitutional treatment; but she grew no better, and an operation was proposed and agreed to. As soon as the day and the hour were decided upon she lost all pain in her coccyx, and had not since had a return of it. This happened about six years ago. On another occasion he saw a very obstinate and severe case of coccygodynia, which he had been treating unsuccessfully for a long time and which had a traumatic history, quickly disappear under an exciting family jar. In view of this experience, he believed it always safer at first to consider coccygodynia as a local expression of a general neurosis, and to treat it accordingly.

Dr. J. H. PACKARD asked why Dr. Goodell had preferred the bone nippers to disarticulation in the first case.

Dr. ALBERT H. SMITH asked if Dr. Goodell had removed the entire coccyx. (Dr. Goodell was not sure, but thought so. There had been an abscess in connection with the injury, and the bone was dead and somewhat necrosed. He had cut off one piece with the nippers, and then disarticulated the remainder). Dr. Smith, continuing, said there had been suppurative action, probably following ankylosis. Such a condition might result from injuries received in labor, or from falling astride a chair-back or a rail. Most cases were reflex hysterical or uterine pains, as would be proved by the freedom from tenderness when the finger was pressed on the coccyx while making a vaginal examination. He had never removed the coccyx, because he had seen so little relief from the operation in any cases that had

come under his observation. Why should relief come unless all the nerves and other painful tissues were also removed? He would be glad to hear the result of the operation in the case reported by Dr. Goodell.

AXIS-TRACTION WITH THE OBSTETRIC FORCEPS.—Dr. PACKARD demonstrated a new method of applying axis-traction by an attachment applied to any ordinary obstetric forceps. The device consisted of two steel hooks arranged to catch in the fenestræ of the blades of the forceps, and terminating in rings through which a wooden handle was to be passed. The handles of the forceps were to be lashed together.

Dr. SMITH remarked that Dr. Tarnier's first suggestion was to pass a cord through holes drilled in a widened portion of the blades at the point at which handles were now attached. The hooks exhibited by Dr. Packard did not draw from the right point, and he thought there would be difficulty in adapting them when the head was high.

Dr. GOODELL thought that Tarnier had been anticipated in the cord attachment by another French physician.

THE SIGNIFICANCE OF METRORRHAGIA ABOUT AND AFTER THE MENOPAUSE.—Dr. B. F. BAER read a paper in which he said that metrorrhagia recurring about the menopause was as likely to be the result of disease of the uterus or its appendages as it was at any period previous to that time. The popular belief that floodings at the change of life were physiological often resulted in harm. That the loss of blood was depurative or critical, and that it protected the vital organs from injurious congestion, was erroneous. Where health existed, the cessation of menstruation would be attended by no more aberrations of function than were seen in its establishment. An analysis of twenty-two hundred cases, treated in hospital and private practice, showed that nearly the same number of women sought advice during the establishment and during the decline of menstruation; and it further showed that the numbers rapidly increased as the period of greatest fecundity was reached, and declined after it was past.

Epithelioma of the cervix might result from injury of that organ, but also required some peculiarity in the structure of the tissues which rendered them susceptible to an induced dyscrasia. When a woman, in the midst of the fertile period, suddenly ceased to bear children, there was often some local cause for it. There was some causative relation between acquired sterility and cancer. It was safer to believe the disease of local origin, for we should then endeavor to discover and remove all sources of irritation, and possibly prevent its development. Detailed histories of a number of cases were given to illustrate the truth of the positions assumed. Where the menopause was retarded beyond the usual period, the cause could often be found in some diseased condition connected with the sexual system, and, as a rule, it was an old-standing trouble. When metrorrhagia recurred after the menopause had been fully established, it was almost invariably the result of a pathological change in the tissues of the uterus.

Dr. GOODELL agreed almost wholly with what Dr. Baer had said. He thought the dangers of the menopause much overrated. Cancer and fibroids of the uterus occurred more frequently at that age than any other, and had caused the popular dread. Although hæmorrhage was always pathological, its cause could not always be discovered, and in this "dodging period" serious hæmorrhage might occur and no dangerous condition exist. He would like to believe that cancerous growths had a benign incipency, but could not go so far. The microscopists made many mistakes in ascribing malignancy to growths removed from the uterus. Dr. Goodell then gave a number of cases in which experienced microscopists had given prognoses of early fatal termination, based upon the cell-formation of growths re-

moved from the uterus; but these patients had recovered, and now showed no evidence of any diseased condition. With regard to the small proportion of cancerous growths following laceration of the cervix uteri, he called attention to the large number of Irishmen using clay pipes, and the small number of lip cancers; and yet it was universally acknowledged that the use of a clay pipe was the principal cause of such growths.

Blood-letting is practiced very freely in Turkey and the East, and women, as a consequence, got very stout; such women were more liable to profuse hæmorrhage at the "dodging period."

MALARIAL POISONING IN A NEW-BORN BABE.—Dr. WILLIAM T. TAYLOR reported a case of this sort, as follows:

We have frequently observed fevers of a malarial type in very young children, in some even during the first year, which were ushered in by a convulsion or other prodrome, without a rigor, as occurs in older persons, and their character is only recognized by a repetition of the attack in a day or two. But the youngest subject of this disease which I have met with is the following case:

Mrs. A. R., during her second pregnancy, was affected with malarial fever, and, although she was then residing at the seashore, was obliged to take occasional doses of quinine to control it. She returned to her city residence at the end of the season, but continued using quinine from time to time until the end of her utero-gestation, which was completed in November last, when her babe was born. Her labor was natural and easy, and she had no unfavorable symptoms. The child appeared healthy, was of good color, but was smaller and feebler than her first-born at its birth. As she had a good supply of milk, it soon drew the breast quite vigorously. About one week after its birth the nurse called my attention to "weak spells" which it had occasionally, accompanied by coldness of the skin, a feeble circulation, and prostration, which continued for fifteen or twenty minutes, and were followed by a clammy perspiration. By the application of heat to the body, and giving it a little brandy and water or other stimulant, it would revive. I observed that these "spells" had a periodicity, occurring every two or three days, and, considering them malarial, I gave the mother quinine and valerianate of iron, which, acting therapeutically through the milk, soon caused the "spells" to cease, and the babe became well and fat. I also gave it small doses of the elixir of cinchona for several weeks. The child must have contracted this disease while *in utero* through the placental circulation, for, being born in a perfectly healthy locality, it was not exposed to any external malarial influence. When labor began, the quinine was stopped, and was not resumed until the condition of the child required it, when it soon showed its antiperiodic action by completely arresting these "weak spells," for now the child is perfectly well.

Dr. R. P. HARRIS related a case of parallel character, which had occurred some years ago in a malarious neighborhood. The mother was under treatment before labor. The child had chills and fever when quite young, and was treated through the mother.

W. H. H. GITHENS, M. D., *Secretary*.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

PATROLOGICAL SECTION.

Meeting of January 28, 1884.

The President, Dr. FREEMAN, in the chair; Dr. BARTLEY, Secretary.

CICATRIX OF THE STOMACH AND STRICTURE OF THE OESOPHAGUS WITH RUPTURE BELOW THE STRICTURE.—Dr. BROWNING showed a specimen, and spoke as follows:

This specimen was taken from a man a little over fifty years of age. He was a patient of Dr. Benton, and had been seen also by Dr. McCollom and Dr. Pratt. The main points in the history of the case have been given me by Dr. Benton.

The subject had long been an habitual drinker, without, however, as it is represented, often getting fully intoxicated. His final trouble dated back a year and a half, beginning with stomach symptoms, dyspepsia, pyrosis, etc. About ten months before his death indications of stenosis of the œsophagus began, and gradually increased so that he could swallow no solid food, and but a spoonful or two of liquid at a time, and this only with effort.

However, at no time had there been complete stoppage of the food-pipe. No history of hæmatemesis. He finally became extremely emaciated, could swallow only a little spirit and water, and this was retained but a short time. Enemas were, of course, tried. Persistent obstipation. Albumin in limited amount had been found in the urine.

In the course of the trouble an ulcer of the stomach had been diagnosed, as also stricture of the œsophagus, although the patient objected to having a sound introduced. Cancer of the cardia had also been thought of, especially in consideration of the patient's age and habits, but the skin had not that peculiar shade so often seen with carcinoma.

In a little material expectorated the day before death I found an abundance of pavement epithelium, mucus, and transparent rhombohedral crystals. He had been troubled a great deal with raising tenacious mucus, said to be very generally the case in stricture of the œsophagus.

He died rather suddenly about five minutes after vomiting some dark-greenish fluid.

Post-mortem in presence of the above-named gentlemen: Heart and lungs apparently normal. The left lung contained less air than the right, and was adherent at its apex only. In the left pleural cavity at least half a pint of dark-green fluid. No further sign of pleurisy.

In the abdomen the large and some of the small intestines were filled with fecal matter. The end of the left lobe of the liver was firmly adherent to the stomach. The latter organ was partly filled with a fluid very similar to that in the left pleural cavity, and, according to Dr. Benton, also to that vomited just before death.

On removing the stomach and œsophagus, the latter was found moderately strictured, beginning about an inch above the cardia and extending from here, though in a decreasing degree, an inch and a half upward. It was quite impossible to force a little finger through this portion. The œsophagus-wall in the strictured portion gradually increased in thickness from above downward to a point a little below the seat of greatest constriction. The hypertrophy affected about equally the longitudinal and circular muscular layers and the submucous and mucous tissue.

The thickest part of the muscular layer extended a little below a marked circular stricture of the intima, and then both longitudinal and circular fibers terminated abruptly.

The mucosa at the stricture was not especially adherent to the underlying tissues. Its surface was not ulcerated, but smooth, and presented few or no rugæ. Below the strictured portion the œsophageal walls were very thin, macroscopically devoid of muscular elements, and the canal was not constricted. It presented the appearance of thin cicatricial tissue. On one side of this part there was a slight depression—as large as the end of one's finger. On the left side of the attenuated part was an oblong opening from above downward. This was evidently a rupture.

The cardia was as permeable as usual, as was also the py-

lorus. The adhesion between stomach and liver corresponded to a large depressed cicatrix on the lower surface of the smaller curvature, clearly the result of ulceration. The ulcer appeared to be healed over, although between this and the cardia the stomach-wall was very thin, and at one point there was an opening believed to be a tear made in freeing the adhesion, since there was no sign of perforation into the abdomen before removal, and it was found easy to enlarge the opening. The smaller curvature of the stomach was almost obliterated by the cicatricial contraction, thus bringing cardia and pylorus very near together—barely an inch apart.

Kidneys were slightly congested, liver normal.

There was considerable discussion by the gentlemen at the time as to the relation of the results found at the autopsy to the course of the disease. With the assistance of the opinions there expressed, and further examination of the preparation, I think it is possible to give a fair explanation of some of the principal features.

His abuse of alcohol produced a chronic catarrh of the stomach, and, either alone or with other unknown factors, finally ulceration. Such catarrh tends to produce atony and even dilatation of this organ. The cicatrization by displacing the pylorus would doubtless further impede the discharge from the stomach. The coprostasis gives additional evidence of the inactivity of the intestinal tract.

The accumulation of material in the stomach, as shown by the autopsy (not only the fluid found in the stomach, but that in the left pleural cavity, and that thrown up just before death, was, doubtless, all held by the stomach), produced the vomiting, and this was made doubly distressing by the stricture hindering the free discharge upward.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of February 25, 1884.

S. O. VAN DER POEL, M. D., President, in the chair.

THE EFFECTS OF ADDUCTION AND ABDUCTION ON THE LENGTH OF THE LIMB IN FRACTURES OF THE NECK OF THE FEMUR.—Dr. WILLIAM S. HALSTED read a paper with this title. [It will be published in full hereafter.]

Dr. A. B. JUDSON did not feel sure that the result would prove of much practical value. He said this because it seemed to him not only that the fixed point, the superior spinous process of the ilium, lay too close to the center of motion, the acetabulum, but that it also lay too nearly in a line with the acetabulum and the malleolus; in other words, the acetabular angle of the triangle was too obtuse. Certainly, shortening or lengthening, as ascertained by measurement under these different conditions, had not proved of any practical importance when applied in cases of hip-joint disease. His experience with fracture of the neck of the femur had not been sufficiently extensive to enable him to speak of the value of the method in such cases.

Dr. J. A. WYETH also thought the point made by Dr. Halsted was more applicable to cases of accidental lesion of the neck than to cases of hip-joint disease. But such measurements in surgery practically were far from exact. What rendered the uncertainty of measurement still greater was the fact that there might be a normal difference of half an inch or even more in the length of the two limbs.

Dr. HALSTED said his remarks were directed specially to accidental fracture of the neck, and not to cases of hip-joint disease. He did not think that in the former class of cases the objection brought forward by Dr. Judson with relation to the great ob-

tuseness of the angle formed by a line drawn from the malleolus to the acetabulum, and another drawn from the superior spinous process to the same point, was well founded in cases of the kind to which he referred, as was illustrated in the case cited. The practical value of the point made in the paper amounted to this in treatment, that by recognizing the influence of abduction the position of the leg could be changed and the patient saved the necessity afterward of walking with a limp.

THE PATHS OF CO-ORDINATION.—Dr. E. C. SPITZKA then read a paper on this subject. After some introductory remarks, Dr. Spitzka related the following case, which was the basis of his paper:

J. B., aged fifty-eight years, a trussmaker, single, consulted the writer on the 6th of August, 1879, and related the following history: About two years before, while in the water-closet, moderately straining at stool, he suddenly became faint and dizzy; his thoughts were confused for the moment, but he recovered in what appeared to him to be a few seconds. He then noticed, on attempting to dress himself, that his right arm was numb, and, on rising, that his right leg felt as if asleep; there was a feeling throughout the right side of his body as if a sort of musical sensation pervaded it. His dressing occupied some time, as he could not find the buttons with his right hand, and afterward he walked to his office on the next floor without much difficulty. At no time thereafter, up to the period of the consultation, had he observed any actual weakness of any of his extremities. The "singing sensation" disappeared, after having continued some months, and was accompanied by the symptom which persisted up to the date of the patient's death, and which he happily described as a stupid feeling, combined with the numb sensation. He frequently spoke of his right hand and arm as being devoid of intelligence. For some time after the attack his vision was blurred, but there seems to have been no marked diplopia. The numbness was limited to the right side. A few days ago he awoke from his sleep feeling an aggravation of his symptoms, and noted a return of the "singing feeling" on grasping a piece of paper with his right hand. His tongue, which had been a little thick, failed him altogether, but he regained its use in a few hours. He has been unable to carry on the skilled work of his occupation.

On ordering the patient to close his eyes, and then to place his right index-finger on the tip of his nose, he does so, oscillating very uncertainly with his hand, and moving his head toward the finger. He is unable to write his name in the dark, but makes meaningless scratches and smears the paper. The handwriting when the eyes are employed is irregular and scrawl-like as compared with his handwriting before the apoplectic attack; it is, however, still legible, and the characters, aside from an irregularity in size and an ataxic tremor, are bold and distinct. On asking the patient to bear up against the writer's resistance, he uses either too little or too much force (usually the latter) when the experiment is tried on the right side, and shows the normal balancing of his forces on the left. At the same time his movements have the jerky, spasmodic character on the right side previously referred to. There is nothing of the kind observable on the left side, and neither the tests made for ascertaining his sensibility, nor those made to elicit his co-ordinatory functions, support the patient's statement that his disorder has lately involved the *left* foot. There are no trophic disturbances of any kind.

September 24, 1881.—Has suffered from a diarrhoeal complaint, with bowel tenesmus, for three days past; this morning had a normal passage. Complaints of alternate swelling of the eyelids. The patient requires firm pressure with the points of a blunt aesthesiometer to appreciate them at all, and it is very uncertain about their locality and number. A sharp aesthesiometer is appreciated as before. A repetition of all tests was made. The ataxia of movement is increased in the arm; the gait is the same. No muscular weakness in the extremities. There is a feeling in *both* feet as if a "thousand extremely fine needles were run through the stockings, and dashed through the deep flesh of the foot." This is much worse in the right foot, but distinctly felt in the left also.

26th.—The patient, after doing considerable running around the

city, and becoming overheated, the day previous, awoke unable to use his tongue, but, after a few minutes, regained its use. All his subjective sensations, particularly the dizzy sensation, were aggravated. The left knee-jerk was increased.

February 8, 1882.—Another attack of a similar character; the speech disturbance is much more permanent, however.

19th.—He fell down in a faint-like condition while crossing the Bowery; did not lose consciousness entirely, as he asserts, but was much bewildered and alarmed. Two tramps lifted him up and led him to his office. The expression of the patient is that of an absent-minded person; there is some contraction of the right pupil.

June 22d.—I was called to the patient's residence for the first time. He has taken to bed, on account of an increase in the dizzy feeling and general malaise. He is able to walk about as well as since his illness, but has become apathetic and somnolent. His right hand is slightly œdematous. He takes a deep breath frequently, and yawns a great deal. The "drawn-together" feeling is less marked than formerly on the right side.

August 4th.—He passes his urine unconsciously. There is slight right hemiparesis, with paraplegic weakness of the lower extremities; the right hand is so much swollen that the patient is hardly able to close it. The tongue, as a whole, inclines to the right, but the point deviates to the left; a coarse tremor is observed in it. He does not appreciate when his bladder is full, though his general consciousness is not noticeably impaired. He recognizes a difficulty in finding the right words to express his meaning. His speech otherwise is thick.

20th.—A chilly sensation was noted after the last visit, which still continues; it is general, but more marked in the trunk and right side.

25th.—Passes water and feces involuntarily, and wanders in mind. Occasionally he speaks deliriously. The cold sensation has continued since the last visit, and is intense and agonizing.

27th.—The breathing has been stertorous day and night in spells for the last two days; there is right ptosis, the previous ptosis on the left side not being noticeable; the right pupil continues extremely myotic. The patient got up and passed water in the chamber three times without assistance, and without exhibiting any considerable motor impairment to the relatives.

At the autopsy, softened areas were found in the left cerebral hemisphere, which exhibited the characteristic appearances of recent necrotic softening; evidences of organization were found only in the periphery of the focus of the right frontal lobe.

A focus of disease in the pons was determined, on comparing the sections made of that part of the isthmus, to consist of a cavity with partly organized walls and intense contiguous tissue changes. At the level of the motor nucleus of the trigeminal the cavity was reduced to a mere horizontal slit, while the area of tissue change around it occupied nearly the entire field of the lemniscus (fillet), failing to reach the rhaphé by two millimetres, and extending laterally to the motor root of the fifth pair, without in any way involving it. In lower sections, the cavity gradually became larger and advanced ventrad, involving the transverse fibers of the pons immediately below the lemniscus field. The contiguous tissue change involved the rhaphé, and, in diminishing intensity, extended across the median line about two millimetres and a half. Still further caudad, the walls of the cavity became irregular, and hardly a millimetre behind its greatest diameter it came to an end, failing to involve the facial-nerve nucleus, or the roots of the sixth pair.

The original lesion in the pons, Dr. Spitzka thought, must be regarded as hemorrhagic, the cavity as a resorption-cyst, while the contiguous lesion consisted in the inflammatory reaction of the neighborhood. There had probably been recurrences of hemorrhage in the neighborhood of the original one, which widened and extended the area of disease downward, and whose last exacerbation was represented in hæmatozin-colored granules.

Connected with the diseased focus, and merging more or less gradually into the area of "reactive" and contiguous change, there were two systemic degenerations of nerve tracts—a descending one, limited exclusively to the stratum intermedium,

and an ascending one, involving the lateral parts of the lemniscus. The former was the more complete and clearly outlined of the two.

If we conceived of the degenerated fields as an entity, the column they represented might be aptly described as comparable to a rod whose upper end was triangular and on the left side of the rhaps, whose middle portion was encroached on by an olive-shaped excavation, and whose lower end, breaking up into separate strands, was bent rather sharply across the middle line, and at the same time curved dorsad so as to terminate in the nuclei of the posterior columns. As a whole, the degeneration corresponded to the known relations of the inter-olivary layer of Flechsig, the lower continuation of the stratum intermedium of Meynert, and the lower portion of the bundle from the pes to the tegmentum of Henle. All these were terms applied to one and the same nerve tract. Its connection with the nuclei of the posterior columns, surmised by Flechsig, and anticipated somewhat crudely by Meynert, was established as a fact by this case, for the degeneration could be traced among and into these nuclei, and not beyond them nor into the spinal cord.

But not alone were the appearances of the sections changed as to the differences in the tints of the healthy and diseased areas in both stained and unstained specimens; the consecutive shrinkage of the degenerated area had led to alterations in position and shape of neighboring parts. Thus, the rhaps was bent, with the convexity of the bend toward the degenerated area. The left pyramid was slightly drawn up, as it were, into the substance of the oblongata, as if to occupy the void which would otherwise have been left by the shrinking stratum intermedium; at the same time it had increased in the dorso-ventral, at the expense of the transverse diameter, as an expression of the shrinkage of the degenerated area from side to side. The fibræ arcuate, passing from the healthy side across the median line through the diseased area, while intrinsically healthy, ran an unusually undulatory course, owing to the shrinkage of their matrix. While the average area of the left side of the oblongata had suffered in its ventral half by the shrinkage of the left stratum intermedium above the decussation of the lesion, it was the upper part of the right side which showed some diminution in area below this decussation.

The microscopic characters throughout were the same, and such as were to be found in characteristic cases of secondary degeneration. There was scarcely a nerve-fiber left in the most ventral part of the degenerated field, either in the upper or in the lower level.

From a study of the case, Dr. Spitzka deduced the following propositions:

1. The so-called lemniscus layer contains in its mesal portion an individualized column of fibers of high physiological importance, which decussates in the so-called sensory decussation of Meynert.
2. The *stratum intermedium*, as this bundle should be called, for reasons to be advanced farther on, is a tract mediating an essential factor of voluntary motility—co-ordination.
3. The ataxia of movement observed in destruction of this tract is not due to a loss of tactile sensibility. The latter was not sufficiently impaired to account for the absolute unilateral ataxia attributable to the division of the stratum intermedium.
4. The stratum intermedium is not purely a centripetal tract. It degenerates centrifugally.
5. Physiologically, it appears to be, in part at least, centripetal; this is shown by the paræsthesias and hypæsthesia complained of by the patient.
6. While the stratum intermedium is probably the continua-

tion of the column of Goll, and, in part, of that of Burdach, toward the cerebrum, the secondary degeneration of the spinal part of this (ideal) tract advances centripetally, while the cerebral portion degenerates centrifugally, the point to which both converge being the nuclei of the posterior columns.

7. Flechsig's statement that there is no direct continuation of the posterior columns into the piniform decussation, but that they terminate provisionally in their nuclei, is demonstrated beyond peradventure by this case.

8. While Flechsig is also sustained in his denial of a gross connection between the so-called upper pyramidal decussation of Meynert and the pyramids proper, yet there is an intimate connection between the stratum intermedium and the pyramid of the same side, extending along the known course of the former tract from its decussation up to the lower part of the pons. It is possible that the connection between the sensory periphery and the pyramids, which Meynert attempted to establish, really exists through the medium of this interchange, though in much lesser degree than the distinguished founder of modern cerebral anatomy surmised.

9. The system of fibers which is represented in the fasciculi arching through the olivary nuclei, those of the external arciform group—and which are not without reason supposed to connect the posterior columns, or rather the latter, through nuclear intervention, with the restiform column—is entirely independent of the stratum intermedium. Nor have the olivary nuclei, or any of the tracts connected with them, a connection with the stratum intermedium.

10. The vertical fibers of the trapezium appertain to the stratum intermedium.

The paper was discussed by Dr. V. P. GIBNEY and Dr. E. C. SEGUN.

The Committee on the Collective Investigation of Disease made a report (read by Dr. DAVID WEBSTER) recommending the sending of a circular to the members relative to the subject of intestinal obstruction.

The Delegates to the Medical Society of the State of New York reported (through Dr. C. L. DANA) that all the delegation had been present at the State society meeting, with the exception of five. Three of the members of the county delegation had been made permanent members of the State society. Later in the evening the society elected the following members to fill these vacancies: Dr. L. EMMET HOLT, Dr. M. JOSIAH ROBERTS, and Dr. W. M. McLAURY.

THE COLLEGE OF MIDWIFERY.—Dr. P. C. COLE moved the adoption of certain resolutions approving of the founding of a college of midwifery. Some discussion followed, and it was finally ordered that the President appoint a committee of five, to report on the subject at some future meeting. The President appointed Dr. LEE, Dr. CHAMBERLAIN, Dr. WARDEN, Dr. JACOBUS, and Dr. PARTRIDGE.

Resolutions were passed approving of the work of the Society for the First Aid to the Injured.

Dr. J. W. HOWE was appointed a delegate to the International Medical Congress, to meet at Copenhagen.

NEW YORK SURGICAL SOCIETY.

Meeting of February 26, 1884.

ROBERT F. WEIR, M. D., President, in the chair.

PLASTIC OPERATION FOR RODENT ULCER.—Dr. A. G. GERSTER presented a patient who showed the result of three operations. A woman, thirty-four years of age, married, presented herself to him about one year ago with a flat epithelioma, or what the older writers called rodent ulcer, on the left cheek. The disfigure-

ment was very great. The size of the deeply depressed ulcer was about that of a silver half-dollar. The main body of it occupied the region of the masseter muscle, and there was pseudo-ankylosis of the lower jaw due to scirrhous contraction of the new growth. Dr. Gerster proposed to remove the ulcer, and made a good prognosis so far as relapse of the disease was concerned, basing it principally upon the fact that none of the adjacent glands were affected. The patient, however, did not consent to be operated upon at that time. She returned in September last, with the ulcer twice as large as it was when he first saw her. Perforation into the oral cavity had taken place in the middle of the ulcer, and there was a continuous oozing of saliva from the opening. She then consented to submit to the operation, and, on the 27th of September, 1883, he removed the entire cheek, together with a portion of the horizontal part and the angle of the lower jaw on the left side, commencing at about two inches from the median line, and also a small portion of the alveolar process of the superior maxilla. When the operation was finished the tongue could be seen for its entire length, and also the jaw which remained. He did not make an effort to close the wide opening by a plastic operation at that time, but waited until cicatricial contraction should diminish the size of this enormous defect to such an extent that a plastic operation could be performed, the object of which would be twofold: first, to form a new cheek, and, second, to prevent the recurrence of ankylosis of the lower jaw, which would have necessarily followed in consequence of cicatricial contraction had no plastic material been interposed between the two edges of the wound.

In order to accomplish this he was obliged to follow a plan which was not original with himself, although the only case in which the method had been adopted, so far as he could ascertain, was one reported by Gussenbauer, in Langenbeck's "Archiv," who performed a similar operation on both cheeks, the operation being rendered necessary by noma. Dr. Gerster followed the same plan substantially in his case. The first indication, then, was to give the oral cavity a lining. On the 25th of October, therefore, he raised a tongue-like flap from the temporal region one inch and three quarters wide and three inches long. It was turned into the defect so as to present the epidermal surface toward the oral cavity. None of the mucous lining of the cheek could be saved at the first operation. There were, therefore, no soft parts remaining to which this flap could be attached, and, consequently, he drilled three holes in the alveolar process of the lower jaw and four in the alveolar process of the upper jaw, and to these the flap was attached by silver-wire sutures. Primary union ensued, and a little more than four weeks later he proceeded to cover up the granulating surface corresponding to the lining of the oral cavity. To do this he raised a flap from the neck, turned it up into the space, and fastened it with a number of silver-wire sutures. This flap necrosed at its apex for a short distance, because of the inequalities of the surface and lack of precise adjustment throughout its entire extent.

Dr. Gerster presented this patient because the case was not yet completed, as there was still one deformity to be corrected, namely, the angle of the mouth was drawn to the left side; and when that correction had been made he would present the patient again to the society. At present she was able to open the mouth wide, and her ability to do so was improving from day to day.

OSTEOTOMY FOR GENT VALGUM; MACLEWEN'S METHOD. Dr. C. T. POORE presented a patient, a girl three years and a half old, upon whom he had performed osteotomy on the right leg. The operation was performed three or four months ago, and was resorted to because he was unable to correct the deformity by means of mechanical appliances, the external lateral ligament

having become relaxed. It was the youngest patient upon whom he had ever performed the operation, and the correction was perfect.

EXCISION OF THE ANKLE JOINT, WITH SPECIAL REFERENCE TO TECHNIQUE AND AFTER-TREATMENT.—Dr. F. LANGE read a paper with this title. [See p. 295.]

A NEW METHOD OF TREATING LARGE BONE CAVITIES IN THE LOWER END OF THE FEMUR IN ADULTS.—Dr. LANGE also read a paper with this title. [See p. 297.]

Dr. L. A. STIMSON said he had recently performed excision of the ankle joint, and hoped soon to be able to present the patient to the society. He also hoped that the case would show less lateral mobility than that shown by most of the cases presented by Dr. Lange, for he had preserved the malleoli in part, although removing the astragalus entire. The operation was performed after the method more recently described by Vogt, by making a longitudinal incision beginning about an inch and a half above the articular surface of the tibia and passing downward along the border of the extensor tendons for about three inches, with a short lateral incision from the lower part of this toward the tip of the external malleolus. Through this incision the astragalus was easily removed and a very full view of the ankle joint was obtained. He endeavored in his case to remove all the synovial membrane, with the preservation of the greater part of the two malleoli. It must be said, however, that in his case the disease manifested itself mainly in the synovial membrane, and only slightly in the tibia and fibula. The feature to which Dr. Lange had directed attention, namely, the displacement of the axis of the limb backward upon the foot, appeared also in his case, and he attributed it, as Dr. Lange had done, to the effect produced by pressure upon the heel, bringing the line of the weight of the body upon the foot somewhat posterior to the point where it normally fell.

Dr. LANGE thought that perhaps the operation described by Dr. Stimson would be best if the disease involved the astragalus alone, but he thought it might not be possible to see all the parts involved, especially if the disease was situated pretty high in the tibia. In such cases the longitudinal incision could not be dispensed with. He also thought the principle of doing as little injury and leaving the parts in as nearly a normal condition as possible was what especially commended Langenbeck's operation.

The PRESIDENT remarked that he had had the opportunity of seeing two cases in which Busch's method of resection of the ankle was performed by making a transverse incision across the sole of the foot. Each of the different operators said the method gave an admirable command of the parts. The result in both cases, however, was a permanent non-union of the os calcis, with considerable necrosis of the same, a result which it was apprehended might occur.

The President also remarked that last summer Dr. Neuber showed him two or three cases of necrosis of the head of the tibia where he had, after the removal of the diseased or dead bone, transplanted a V-shaped flap of skin into the bottom of the cavity and fastened it there by a nail. At the time they were exhibited they were doing admirably. Since then Dr. W. T. Bull had treated one case of tibial necrosis in the same way at the New York Hospital.

Dr. LANGE had tried the same method lately in extensive necrosis of the tibia, but without complete success, probably for the reason which he had seen repeatedly, that in necrosis, if the operation must necessarily be performed where there was a copious discharge, with some infiltration of the tissues, a good deal of suppuration would occur in spite of the use of strict antiseptic precautions. In the case alluded to he was obliged to operate. The patient, a girl of perhaps five years of age, was losing ground,

and bectic had developed in spite of all efforts to build her up for the operation. The discharge was copious before and after the operation, and primary union did not take place. His operation, however, had proved somewhat beneficial, and would probably make recovery more speedy, because the inverted lateral flaps, though not fixed by primary union, had still contracted so as to diminish the bone cavity. He regarded the condition of the parts where primary union was expected as a very important factor. Infiltrated tissues, secreting pus somewhat freely, would continue to discharge freely for some time, though the secreting surface might be removed. Apparently an irritant lay within the tissue at some distance from the wound, and, being somewhat active, must first be given the chance to disappear, either by absorption or by secretion upon the free surface of the wound.

Dr. GERSTER had resorted to this procedure in two cases. In one he had to deal with a relapse of carious affection of the lower part of the diaphysis of the femur. The patient had been operated upon fourteen or fifteen years ago in Europe, and had been doing well ever since; but recently the disease returned, and an abscess formed corresponding to the extensive cicatrix which occupied the inner aspect of the thigh. It was incised, and, after the disappearance of the febrile symptoms, Dr. Gerster attacked the disease itself, exposed the bone, and formed as shallow a trough as he could in the lower portion of the diaphysis of the femur. He then loosened up the skin on either side, turned the flaps into the bottom of the cavity, and fastened them in the manner mentioned. The patient had no fever, but, the dressings getting soiled, he removed them on the twelfth day, and found that to a considerable distance the old cicatricial substance had ulcerated under the influence of the profuse secretion which had taken place from the cavity. Nevertheless, the flaps did not recede, as they did in these operations when the cavity was plugged after the old-fashioned way.

In another case Dr. Gerster performed necrotomy upon the head of the tibia, and, if he had been able to obtain sufficient skin to reach to the bottom of the cavity, he thought the result would have been even more satisfactory than it really was. As it was, the skin flaps were so short that he was obliged to leave uncovered a strip of bone in the median line about one third of an inch wide. Primary union took place as far as the cutaneous flaps reached, and there was no doubt that the recovery of the patient was very much hastened by the procedure. He also noticed that the deep depression of the cicatrix and skin was diminishing, and finally was now on a level with the normal surface of the tibia, and that apparently the bottom of this depression gradually filled up with bony substance.

NECROSIS OF THE LOWER JAW DUE TO PHOSPHORUS POISONING.

—Dr. J. C. HUTCHISON presented the greater portion of the body of the lower jaw removed from a woman, forty-two years of age, who came under his observation about a year ago. She came from Frankfort, Herkimer County, where she had been at work in a phosphorus factory, and from which place a number of patients had been received at the Brooklyn City Hospital. She gave the following history: Two years ago she had an ulcerated tooth on the left side of the lower jaw, which was extracted, and at the end of two weeks she returned to her work in the factory. About one year subsequently small pieces of bone began to discharge from the jaw, and she entered the hospital for the purpose of having an operation performed. Circumstances were such that it was impossible for her to remain as long as was desired before operative measures were resorted to. The operation was performed and the bone exhibited was removed. The patient returned to her home, and Dr. Hutchison heard from her three months subsequently, when she stated that a splintum of bone had come out since her return. He wrote

to her to let him know if she had further trouble, and, from the fact that he had not heard from her since, he concluded that complete recovery had ensued. He thought the specimen showed that the operation might have been deferred with advantage if the patient could have consented, and with less loss of bone.

APHASIA FOLLOWING EXTERNAL INJURY OF THE HEAD WITHOUT WOUND OR CONTUSION OF THE SCALP.—Dr. H. B. SANDS narrated a case of injury of the head which to him seemed to be somewhat remarkable. A lady, aged forty-eight, residing in Hartford, Conn., two weeks before his visit was thrown from a sleigh and probably struck upon her head. She was picked up in an unconscious condition, and, on examination soon afterward, the attending physicians were unable to find any signs of external injury of the head, although there were marks of contusion of the neck and also of the lumbar region. A few hours after the injury consciousness began to return, and vomiting occurred. It was also noticed that the pupil of the right eye was a little larger than that of the left, and was sluggish, although it responded to light.

The singular feature of the case was the existence of aphasia, which, though not extreme, was well marked, and presented the usual characteristics of aphasia resulting from purely pathological causes. Some change in the mental condition of the patient was noticeable, showing itself by a disposition to talk, and by an unnatural degree of mirth. When Dr. Sands saw the patient she talked quite rapidly, using rather often a wrong word. In reading aloud, about one word in every line was not the one she intended to use. She was aware of the infirmity, and became easily fatigued by mental exertion, experiencing pain on the left side of the head whenever she attempted to carry on a conversation for any length of time. The right hand appeared a little weak.

Dr. Sands was unable to recall a case exactly like the one related, and inquired what had been the experience of the members with regard to the production of aphasia from a blow upon the head. The patient's health was otherwise good, and there was no reason to suppose that any disease existed at the time of the injury. The urine had been examined and found to be normal.

In endeavoring to account for the condition, the possibility of aphasia occurring simultaneously with the accident as a result of some cause not traumatic was taken into consideration. It seemed probable, however, that the lesion was due to the injury, because she presented the usual signs of concussion, and the return of consciousness was accompanied by vomiting. Moreover, examination of the heart failed to discover any valvular disease, and, as already stated, the patient's general health prior to the occurrence of the accident was known to be excellent.

Dr. GERSTER mentioned a case in which aphasia took place in consequence of an apoplectic seizure during the healing of a wound made for the removal of cancerous breast, and was apparently caused by embolism. The patient was sixty-two years of age. The left breast was amputated and the axillary space evacuated. Antiseptic dressings were applied, and the wound was healed on the ninth day, when the patient got up and walked out into an adjoining room, lost her consciousness, and fell. She was taken up and put into bed, and when he saw her, on the following morning, she was unable to talk. There was hemiplegia, which disappeared during the course of the next two weeks. Deflection of the tongue and inequality of the pupils were noticed. In the course of three weeks she began to talk again, and the curious feature in the case was that she forgot the German language and spoke only her native tongue, that of Bohemia. She was unable to write, but was able to draw rough

outlines of simple objects. She gradually learned certain letters, but was unable to write all letters. It was therefore a case of agraphia complicating aphasia. Recovery was gradual, and finally was so complete that she was again able to speak in German.

Her circulation was very poor, and three days before the apoplectic seizure Dr. Gerster found evidence of hypostatic congestion of the lungs. Whether this partial solidification of the lung was due to transmission of a clot from the wound into the lung, and whether infarction of the lung followed, from which an embolus was detached and, being carried into the circulation, produced the hemiplegia, he was unable to say. The trouble seemed, however, to be in direct connection with the operation. Also, whether the fall was from the apoplexy, or whether the fall produced the apoplexy, he was unable to determine positively.

Dr. W. S. HALSTED remarked that the hemiplegia in Dr. Gerster's case could be explained without supposing the formation of infarction, and on the ground of the free anastomosis which had been demonstrated to exist in the lungs—so free that emboli might be carried directly through the lungs into the brain, independently of the formation of an infarction.

Dr. A. C. POST referred to a case under treatment many years ago in the New York Hospital, that of a Swedish sailor boy who received a concussion of the brain, and, while suffering from the cerebral disturbance, forgot his English entirely, and was able to speak only his native language.

Dr. LANGE referred to a case of disturbance in the use of language after injury produced in the temporal region by being stepped upon by a horse. The man showed no deficiencies with reference to the number of words, but rather in using them intelligently. He answered questions very quickly, and words seemed to occur to him more than he needed. The case was not a recent one. A number of weeks elapsed after the injury before an operation was performed, and a large number of pieces of bone were removed, but without giving any permanent benefit. At times the patient was restless, and had to be watched and partially restrained. There were no paralytic symptoms. Finally he was discharged uncured.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 6, 1884.

FORDYCE BARKER, M.D., LL.D., President, in the chair.

THE secretary read a letter from Dr. H. P. FARNHAM, presenting his check for one thousand dollars as a donation to the Academy. By a vote of the Academy, Dr. Farnham was made one of its benefactors. Other donations were also acknowledged.

THE DETECTION OF ALBUMIN IN URINE, WITH A REVIEW OF THE METHODS RECENTLY ADVANCED.—Dr. GEORGE B. FOWLER read a paper with this title. If, in some respects, he said, he treated the subject in a somewhat elementary manner, it was for the purpose of making himself perfectly understood. The kinds of albumin might conveniently be classified as native and derived. The native albumin of urine was that which normally existed in the serum of the blood in the proportion of one ninth of one per cent., and was called serum albumin. A great many substances were capable of demonstrating the presence of serum albumin, but many of them were not applicable to its demonstration when present in the urine, because of the complex nature of that fluid. We should consider those reagents which were most readily applied and required the least degree of skill, but which were of practical value

The following methods were given for detecting the presence of serum albumin in the urine:

1. *Heat*.—When serum albumin was subjected to heat it began to grow opaque at about 60° C., and coagulated at about 73° C. The solid coagulum of heated serum albumin contained about nine per cent. of albumin. The paralbumin present could not be distinguished from the albumin, as both were alike coagulable by heat. When diluted, the reaction of albumin to heat was less; the coagulum was less firm and the opacity less marked. If to the pure albumin an inorganic acid were added, no coagulum would be formed by the application of heat, for by the addition of the acid the albumin had been converted into an acid albumin which was not coagulable by heat. This was an important practical point, as doubtless many physicians made the mistake, in using, for instance, the nitric-acid test, of adding the acid first and then applying heat, expecting to find the albumin precipitated if any were present in the fluid. This was also true of very alkaline urine. If to serum albumin a considerable quantity of an alkali were added, alkaline albumin would be formed, which was not thrown down by heat. Very alkaline urine, therefore, should receive a little acid, to neutralize its alkalinity, if we wished to detect the presence of a trace of albumin.

It would be seen that the derived albumins were formed when a fluid in which albumin was present contained an excess of an acid or of an alkali, and such derived albumins had their own reactions. By diluting an alkaline or an acid urine up to the point of neutralization, a precipitate of albumin could be formed by the application of heat. The proportion of albumin which heat would detect was about two tenths of one per cent. Heat applied to a solution containing that proportion of albumin would cause a slight opacity. It was necessary, however, that the solution be neither strongly alkaline nor strongly acid.

2. *Mineral acids* would precipitate albumin, and one of the most delicate and best tests for the presence of albumin was nitric acid. This agent would detect one tenth of one per cent. of albumin.

3. *The neutral salts*, subsequently acidulated, would precipitate albumin, and the preparation of chloride of sodium used by Dr. Roberts, of Manchester, England, was considered a delicate test, although Dr. Fowler did not regard it so highly as ferrocyanide of potassium. With it one could detect the presence of a one-per-cent. solution of albumin. The brine, when kept awhile, was open to the objection that the salt would form crystals along the stopper and the mouth of the bottle. Ferrocyanide of potassium, with a weak acid, was capable of revealing one tenth of one per cent. of albumin.

Picric acid, which was first brought prominently forward as a reagent for the detection of albumin by Dr. Johnson, of England, was a very delicate and excellent test, and would show the presence of one tenth of one per cent. of albumin. It was open to the objection that it also precipitated the peptones, the urates, and quinine, but, if these substances were present, they would disappear on the application of heat. It was necessary in using picric acid to add an equal bulk of the acid to the urine; if but a small amount of the reagent were employed, the precipitate which it caused would readily disappear on shaking the test-tube.

Dr. Oliver, of London, had recently introduced the *tungstate of sodium*, first employed by a Frenchman, as a test for the presence of albumin in the urine with the presence of a weak acid. It showed the presence of one tenth of one per cent. of albumin.

But the most delicate test which had been introduced was that of *potassio-mercuric iodide*, which was made with iodide of potassium, 3.32 c. c.; bichloride of mercury, 1.35 c. c.; and

water, 100 c.c. It was a perfectly clear and transparent liquid, and, when added to albumin in this state, produced no effect, but, with the addition of a weak acid, such as citric or acetic, a marked coagulum would be formed. It revealed the presence of one tenth of one per cent. of albumin.

The importance of being able to examine urine for the presence of albumin at the bedside of the patient was generally recognized, but until recently no convenient method for accomplishing this had been presented. The object had now been attained, however, by Dr. Oliver, with the use of his test-papers. The test-paper could be formed by saturating paper with the solution of tungstate of sodium, with potassio-mercuric iodide, or with the ferrocyanide of potassium, and other papers acidulated with citric or acetic acid. Let the papers dry, cut them into small strips, put them into a box with a partition, and, when it was desired to examine a specimen of urine for albumin, put one of each of the two kinds of paper into the fluid, and, if albumin were present, it would be seen to fall in a cloud. The most delicate of these tests was that with potassio-mercuric iodide, which distinctly revealed the presence of five one-hundredths of one per cent. of albumin. Indeed, the test was so delicate that in nearly every specimen of urine, whether from the sick or the apparently healthy, a slight precipitate of albumin was caused.

The author demonstrated the use of these several reagents, and expressed special preference for the test-papers of potassio-mercuric iodide prepared by Dr. Oliver. Nitric acid, picric acid, acidulated solution of ferrocyanide of potassium, and tungstate of sodium were all very good and reliable tests.

Dr. E. D. Hudson said that, as had been suggested by the President, the general practitioner of medicine regarded the examination of urine for albumin from a practical point of view; he wished not only to be acquainted with the most convenient and reliable methods for determining the presence of albumin, but also to be informed of the significance of that material when it was present. But, limiting his remarks to the methods of examination, he said that he had kept himself informed with regard to the new reagents which had been introduced, but he had been, and was now still more, convinced that for the busy practitioner none of the new methods were likely to prove more practical and reliable than the old one of heat and nitric acid. He did not think that the diagnostic significance of the presence or absence of albumin was such as would justify us in neglecting further examination by the microscope in a case of suspected renal disease. As phosphates were so commonly present in urine, and were precipitated by heat, he made it a custom to keep a vessel of ice-water on the table, and, immediately after getting a precipitate from heat, to place the tube in the cold water; by the time another specimen had been examined, the phosphates, if they were present, would have become dissolved again.

Dr. GASPAR GRISWOLD said there were two points from which to view this subject; one was the chemical, the object of which was to detect the least possible amount of albumin; the other, the clinical, the object of which was not so much to detect the least possible amount of albumin as to furnish a convenient and practical method. The mere presence of a small amount of albumin in the urine was not now considered of such serious significance as formerly, and it was probable that the old heat and nitric-acid tests were all that were needed from a clinical standpoint. It was important to have a perfectly clear specimen of urine, and, if necessary, liquor potassæ should be added. It was further necessary to view the specimen against a dark background, when but a trace of precipitate was present.

Dr. C. DOREMUS heartily indorsed the remarks of Dr. Griswold regarding the distinction between the clinical and the chemical standpoints of viewing methods of examining urine

for albumin. The test-papers of Oliver might be very convenient for use at the bedside. The results of the most delicate tests were apt to be obscured by the want of a perfectly clear specimen of urine. The ferrocyanide of potassium and acid test was a very good one.

Mr. MUNN had been able to detect the presence of albumin in the urine after the use of a reagent by placing it in a pencil of light as it came through a hole in a dark window-shade, when others had failed to do so.

Dr. MAXWELL thought there was but little difference between picric acid and tungstate of sodium as regarded their delicacy as tests for albumin; but we should not depend upon a single reagent; it was always safer to apply several different tests in any given case. The mere presence of a small amount of albumin in the urine, without other signs or symptoms, he did not regard as of serious significance.

Dr. FOWLER, in closing the discussion, agreed with the last speaker, that entire reliance should not be placed upon a single test. He could not agree with Dr. Griswold that we should not go into unexplored fields; it had not been determined that the traces of albumin revealed by the more delicate tests were not of clinical significance. That peptones were sometimes present in urine he had witnessed, and the best test therefore was the reaction with Fehling's solution.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M.D.

THE COMBINED METHOD OF TURNING IN PLACENTA PRÆVIA.—Dr. C. Behm ("Ztschr. f. Geburtshülfe u. Gynäkologie," ix, 2) refers to the method which was described by Braxton Hicks in 1861, and to the literature of the subject, in addition to giving a somewhat extended notice of his own experience, involving fifty-three cases with this complication, in the clinic of Professor Gusserow, at Berlin. These cases are divided into two series, the first numbering thirteen, the second forty. Those in the first series were treated by the old method of version; thirty of those in the second by the combined method; the remaining ten required other procedures. The thirteen mothers gave birth to fourteen children, and the mortality was four for the mothers and ten for the children. As to the insertion of the placenta, in three cases it was marginal, in five lateral, and in five total or central. Of the forty cases in the second series, there were no deaths on the part of the mothers, but eight were the subjects of fever, and one suffered with hemorrhage on the seventh day of the puerperium. Of the forty children, nine were born alive, five of whom were mature, two premature, and two with vital defects. Of the thirty-one dead children, six were mature, eleven were premature, and fourteen had vital defects. Notwithstanding the small percentage of survivals on the part of the children, the author considers the results excellent, and would so consider them even had all the children been lost, when the peculiar conditions attending this complication are born in mind.

The advantages of the combined method of turning are summed up in the avoidance of sepsis, which it insures, and also the limitation of the loss of blood, by means of the tamponade which is effected by the breech of the child. Turning having been accomplished, the author differs with Spiegelberg, Fritsch, and others in their view that extraction should be as rapid as possible. In twenty-four of his cases in which he noted

the interval between turning and extraction it varied between one half-hour and eleven hours, birth taking place in the largest number between two hours and two hours and a half after turning. In the interval the strength of the patient should be re-enforced, and stimulants are regarded with more favor for this purpose than any method of transfusion. As a means of preventing atonic post-partum hemorrhages, this method of turning has answered perfectly in the author's experience, and no accidents of this nature occurred to him. The aphorism which he proposes for the treatment of placenta previa cases is *haste, with delay*—haste in performing combined turning, delay in extraction.

AXIS-TRACTION WITH THE OBSTETRIC FORCEPS.—Dr. J. F. Le Page ("British Medical Journal," Oct. 2, 1883) remarks upon the great diversity of opinion in regard to the proper use of the forceps among those, even, who have had large experience and are capable of giving an intelligent opinion. A great number of eminent men are quoted, as well as their diverse opinions. The force which nature exercises in accomplishing delivery he declares is intermittent axis-propulsion, and during the intermissions the head of the fetus is adapted to the easiest diameters. The force is always applied in the same line—that of the spinal column. By using powerful leverage on the soft parts, or by forcibly dragging the head, without regard to diameters, through the pelvic canal, we are not acting on this line. If traction is to be exercised, it should be with an instrument which is capable of great freedom and range of movement, the movements being unrestricted and under the control of the operator. In some cases we should not forget that the office of the forceps is not that of a tractor or a lever, but that of a compressor. During the intervals of uterine contraction very gentle rotatory movements should be imparted to the head to aid its adjustment. If the foregoing statements are true, neither the straight nor the curved forceps accomplishes its desired end; therefore the author proposes a new forceps, which has a strong brim and perineal curve, and an adjustable lever. The handle is in a line parallel with that of the blades. It is practically a straight forceps, but, with the lever, traction can be made backward in the axis of the brim. With the lever and handle combined, flexion, rotation, and extension may be assisted or altogether effected, and at the same time the line of traction is independent and can be continued throughout without any variation from the axis of the canal.

AXIS-TRACTION AND OSCILLATION WITH THE OBSTETRIC FORCEPS.—The object of a note by Dr. Robert Barnes (*Ibid.*, Nov. 3, 1883) seems to be, in part at least, to correct a misunderstanding as to his views in regard to the necessity of traction. The statement, in his "Obstetric Operations," that "traction is hardly called for at all," he affirms applies only to a very limited class of cases, in which there exists no anatomical disproportion. [This would seem very much like a weakening on the part of Dr. Barnes with respect to the position which he has heretofore maintained.] He admits that progression is supplemented by traction, and that this, together with the normal movements of the fetus, favors progression and adaptation, with the minimum waste and misdirection of force. As to oscillation-movement, he thinks that when this is very gentle, with the lock of the forceps as the fulcrum of the lever which is formed by each blade, there need be no fear of dangerous pressure upon the maternal soft parts. Slight oscillation will act as an aid to progression.

LAZAREWITCH'S STRAIGHT FORCEPS WITH PARALLEL BLADES.—Massalitinoff ("Ann. de gynéc.," Jan., 1884) states that the main object of this forceps is to avoid the compression of the foetal head which is inevitable in a *crossed* forceps. It was presented to the late International Congress at London, and

afterward, in 1883, it was exhibited at the exposition at Moscow. The excellences of the instrument consist in the absence of the pelvic curve, and in its parallel blades, which are fastened, by means of a pivot and screw, in the handle of one blade, and a hole in the other into which the pivot is mortised. The instrument admits of a maximum separation of the blades at the tips of two centimetres and a half, without altering the parallelism of the handles. It therefore resembles somewhat the old Chamberlen forceps. The advantages claimed for it are the following: 1. On account of their mobility, the blades can be perfectly adapted to the head as well as to the walls of the pelvis. 2. With parallel blades the compression of the head is produced only by the walls of the pelvis. 3. In cases in which the head is in the superior strait, even in an oblique diameter, a straight forceps can be successfully used on account of the absence of the pelvic curve. 4. With this instrument the progressive movements of the head are produced with much greater facility than with one which has the pelvic curve. 5. This instrument is especially useful for those who have not had much experience in the use of the forceps. 6. With this instrument it is easier to change the position of the head, and bring it into another diameter of the pelvis, than with others. 7. The blades can be joined together with great ease on account of the mobility of their articulation.

THE APPLICATION OF THE FORCEPS TO THE BREECH.—Truzzi ("Gaz. Med. Ital., Lombardia," Nos. 31-33, 1883; "Ann. de gynéc.," Jan., 1884) relates his experience in this method of using the forceps, a method which has been proscribed by most obstetricians, in a series of fourteen experiments upon the cadaver. The conclusions are as follow: 1. In a case in which the buttocks are wedged in the superior or middle portion of the pelvis, and the indication is for rapid extraction, the application of the forceps is preferable to traction in the groin with the finger, crotchet, or fillet, an operation which is likely to be attended with fracture of the femur or laceration of the soft parts in Scarpa's triangle. 2. Olivier's proposal to apply the forceps upon the thighs, and not upon the pelvis of the fetus, is plausible in theory, but not warrantable in practice. If his directions were carried out, the abdominal walls, and especially the region of the liver, might be compressed in a dangerous manner. 3. The application of the forceps upon the sides of the foetal pelvis is easier, more certain, and less perilous than Olivier's method. The soft tissues which cover the iliac bones form a suitable protection for them, and an unusual compressive force would be requisite to injure the bony structure. In all the author's experiments there was neither fracture of the iliac bones nor injury to the sacro-iliac or pubic articulation. 4. In order to obtain a good grip, the bite of the blades should reach the level of the iliac crest. The *point d'appui* should be taken at the iliac crest; the convexity of the foetal hips will adapt itself to the concavity of the blades of the forceps, and the abdominal viscera will escape injury. 5. Porro's forceps thus applied has an excellent grip, especially in the anterior presentations. In the intervals between the efforts at traction it is desirable to maintain a certain compressive force with the instrument, lest the resiliency of the iliac bones cause the instrument to lose its grip. 6. Porro's forceps will answer all the requirements for application to the breech. The author thinks that most of the forceps which are now in use are too large, and have departed far from the simple plan of the original instrument.

THE INTRA-PERITONEAL TREATMENT OF THE PÉRIE IN PORRO'S OPERATION.—Dr. V. Chalat ("Ann. de gynécologie," Aug., 1883) affirms that the primary Porro operation, in which the cervico-uterine stump is secured in the inferior angle of the abdominal wound, excels the ordinary Cæsarean operation in at least three respects: 1. In reducing primary hæmorrhage to the

minimum and in preventing secondary hæmorrhage. 2. In preventing the passage of the lochia into the peritoneal cavity. 3. In maintaining under control the inevitable exudate from the surface of the uterine segment. To these a fourth may be added, viz.: The prevention of subsequent conception. In place of removing the ovaries and tubes, the author suggests the firm ligation of the latter, as an effectual preventive against hæmorrhage at the monthly period, and this procedure is of advantage as well in the Cæsarean operation as in Porro's.

In the preparation of the stump, after the uterus and its contents have been removed, considerable care is required. The means for stopping hæmorrhage are very numerous, and will be adopted in accordance with individual preference. The stump may be constricted *en masse* or in two halves after its division, which latter method the author thinks preferable. The stump, being drawn to the lower angle of the abdominal wound, should be pierced by a long pin, or by two of them at right angles to each other, as a support for those parts which are to decompose and come away. Sutures or a clamp may be used in place of the pins. Disinfecting or caustic solutions must be applied to the decomposing portions as often as is necessary, and drainage of the abdominal cavity may be required as an additional safeguard against septicæmia. In spite of all precautions, the mortality from this method of treating the stump is not inconceivable, since fatal cases are not usually published. In case of recovery, the abdominal wound will require attention for a long time.

The intra-peritoneal treatment of the stump has connected with it the danger of hæmorrhage, peritonitis, and septicæmia, and therefore has not been extensively used. The detailed history of seven cases of supra-vaginal hysterectomy are given in which this method of treating the stump was adopted. The showing of results is not good—five deaths and two recoveries. Two other cases are added in which pregnancy was confined to one horn of the uterus, and in which that horn alone was removed, leaving conditions much more favorable for the treatment of the pedicle. Both patients recovered. Reviewing all the methods which have hitherto been devised for the intra-peritoneal treatment, the author concludes that they are either too difficult, too tedious, or too insecure to merit approval. He therefore proposes a new method, the practical success of which seems to him assured, since it will accomplish effective hæmostasis, afford suitable protection against those tissues and liquids which are capable of irritating and infecting the peritoneal cavity, require the least possible time, and can be executed easily, and in all places, with the ordinary instruments. This method is founded upon the use of the elastic ligature at the two angles of the pedicle, and upon the inversion of the stump, with a double row of sutures through the peritoneum. The steps are as follow: 1. A careful incision in the median line eighteen to twenty centimetres long, beginning at a point five centimetres below the umbilicus. It must be long enough to afford easy manipulation, and healing by first intention should be the desired end. 2. Müller's method of drawing out the uterus, the abdominal wall being pressed as close to it as possible, especially at the lips of the wound. 3. Incision of the uterus in the middle line of its anterior face, near the fundus, with a pointed bistoury. Extension of this incision with strong scissors, so as to form a reversed T, the vertical arm of which is fourteen centimetres and the horizontal five centimetres in length. Care must be taken that neither blood nor amniotic fluid enters the peritoneal cavity. 4. Extraction of the fœtus by the head or by the feet, according as one or the other presents; compression of the lower part of the body of the uterus and division of the funis between two ligatures. The placenta is not to be removed unless it is attached in the cervical zone.

5. Encircling the neck of the uterus with a disinfected rubber tube forty-five to fifty centimetres long, which is securely tied with a double knot. 6. Excision in succession of the uterus, the round ligaments, and the broad ligaments, just below the ovaries (the uterus being well drawn up), with a small amputating-knife. 7. Definitive hæmostasis. A disinfected rubber ligature, three millimetres thick and forty centimetres long, is carried by a strong needle through an opening one centimetre below the surface of the stump and one centimetre inward from its left angle, from the uterine cavity to the peritoneum. It is then carried around the stump and made to penetrate it again, from the peritoneum inward, at a point opposite the one at which it entered. The two ends are then forcibly drawn upon and securely fastened with whipcord tied in a double knot at the points where they enter the uterine tissue. By this arrangement the uterine, tubo-ovarian, and funicular arteries are completely under control. In the same manner the vessels upon the right side are secured. The surface of the stump is then to be touched with the Paquelin cautery or with a ten-per-cent. solution of chloride of zinc. Thus the dangers from sepsis and hæmorrhage are avoided, and the stump still retains its vitality by means of the circulation by anastomosis. 8. Removal of the tube which compressed the cervix, and stoppage of any hæmorrhage which may arise. The ends of the elastic ligature are then brought through the cervical canal into the vagina, and are allowed to hang out at the vulva. They can be removed in from eight to twelve days. 9. The stump is inverted for a distance of two and a half to three centimetres, which process necessarily turns the angles, with their elastic ligatures, into the cervical canal. The peritoneum is drawn over the stump thus doubled in thickness, deep sutures are passed through the entire mass, and the peritoneal edges are accurately apposed by superficial sutures. 10. Toilet of the peritoneum. Complete closure of the abdominal wound with a double row of carbolized-silk sutures. Irrigation of the cervico-vaginal canal. Antiseptic dressings.

PERITONITIS DURING PREGNANCY.—Dr. C. Mégrat (*Ibid.*, Nov., 1883) remarks that this affection may begin at any period of pregnancy. The evidences of its presence may be such as are met with in any ordinary attack (i. e., one uncomplicated with pregnancy), or they may be such as announce the commencement of premature labor. Should labor supervene, the severe symptoms of each condition will aggravate those of the other, and render the state of the patient truly dangerous. The diagnosis is an easy matter when the disease is isolated, but not when it is complicated with some other affection, especially of the abdominal viscera. The affection in a pregnant woman, even when no puerperal epidemic is present, is doubly grave, on account of the possible influence of the inflammation upon the pregnancy, and *vice versa*. The author discusses the prognosis under three heads: (1) with reference to the continuation of the pregnancy, (2) with reference to the survival of the child, (3) with reference to the life of the mother. If the disease is recognized at its commencement, and actively combated, it may usually be subdued, in the absence of epidemic influences, and abortion be prevented. If it becomes confirmed, however, especially if it becomes generalized, it will almost inevitably interrupt the pregnancy. It may be fatal to the fœtus by causing a premature birth. In the earlier months of pregnancy abortion from this cause is not so liable to occur as in the later ones. In many cases it does not seriously affect the mother's subsequent health. The treatment will depend upon the time in the attack when the patient is first seen, upon its intensity, its form, and its cause. In general, leeching and the use of opium will form the groundwork.

THE ETIOLOGY AND PATHOLOGY OF SPORADIC PUERPERAL SEPTICÆMIA.—Dr. W. Strange ("Brit. Med. Jour.," Dec. 22,

1883) still holds to his opinion as to the independence of puerperal fever of the contagion of the specific zymotic diseases, or, in other words, he thinks that it can not be propagated from the virus of scarlet fever, measles, small-pox, etc. His experience leads him to differ with most of the text-books as to their descriptions of puerperal fever, for he has found that the inflammatory element is *not* generally combined with the septicæmic process, and that the duration is usually from three to seven weeks. He has observed fatal results from three causes: as-thenia, pyæmic deposits, and thrombosis of the heart and pulmonary artery. Whether there is a specific organism which produces this disease he is not prepared to say, although he admits that micro-organisms abound in mucus from septicæmic puerperal women, and that the mucous membrane of such subjects is a favorable ground for their development. He is also convinced that the disease is not autogenetic—that is, does not begin upon the body of the patient, but does begin with some cause of infection from without.

Miscellany.

THERAPEUTICAL NOTES.—*The Administration of Phosphorus.*—M. Pierre Vigier concludes an interesting communication on the pharmacology of phosphorus ("Gazette hebdomadaire de médecine et de chirurgie," February 22, 1884) with the statement that its administration should be limited to the two following forms: 1. The phosphide of zinc, in pills of 8 milligrammes, corresponding to 1 milligramme of phosphorus, of which from two to eight may be taken daily. 2. Phosphorated oil, one per cent., in capsules of 10 centigrammes each, containing 1 milligramme of phosphorus. These capsules or "pearls," he remarks, are to be had of good quality in the shops.

Bichromate of Potassium.—According to the "Journal des sciences médicales de Lille" (quoted in the "Progrès médical"), Dr. Güntz, of Dresden, and Professor Vulpian have lately rescued this agent from oblivion. The former recommends it as an excellent antisyphilitic, and, moreover, as a preventive of syphilis, used in the form of an aerated solution (*eau chromée gazeuse*), as follows:

Bichromate of potassium.....	0.03;
Nitrate of potassium.....	0.10;
Nitrate of sodium.....	0.10;
Chloride of sodium.....	0.20;
Water.....	600.00.

Dissolve the salts in the water, and charge highly with carbonic acid.

M. Vulpian speaks highly of the effects of the drug in certain cases of dyspepsia, especially those in which, probably from a catarrhal or an arthritic affection, the symptoms resemble those that mark the onset of epithelioma of the stomach. On account of its disagreeable taste, he uses it in the form of pills, according to the following formula:

Bichromate of potassium.....	0.50;
Extract of valerian.....	5.00.

Divide into fifty pills, each of which will contain 1 centigramme of the salt. The amount taken daily may vary from 2 to 10 centigrammes. For external use, the bichromate is employed as a caustic, either in solution or in the form of an ointment, for venereal sores, but more commonly for warts. The ointment may be made in the proportion of one part of the salt to twenty of lard. In adults, it is better to cauterize a wart directly with a crystal of the bichromate; its action is somewhat slow, but it is surer than that of lapis infernalis, and it is less disagreeable and decidedly less dangerous than that of nitric acid.

A BILL TO PREVENT CONTESTED-WILL CASES.—There has been presented to the Legislature of this State a bill calculated in some measure to do away with the scandalous scenes often enacted in the surrogates' courts on the probate of wills. It has been a frequent custom, when a

rich man dies, for a host of contestants to rise up and attempt to prove the mental unsoundness of the testator, or his subjection to the improper influences of those about him. The danger that this will occur has no doubt often prevented persons from making wills, the preference being for an equal distribution, under the laws of the State, to the raking up of unpleasant secrets. In addition to this, the prospect that the estate would be rapidly depleted by ungrounded contests has led many persons in this State to look with much interest to Michigan, where the experiment has been tried for some years of allowing a man to present his will to the surrogate in his lifetime, and cite all persons who could have an interest in his estate to appear and object to his mental soundness or to the improper influences exerted over him. If nothing substantial could be alleged on these points, the surrogate was to make a decree declaring the person able to make a valid will, and this decree could not be attacked after the person's death. This law has worked so well in Michigan that it is said that will contests are almost unknown there. The following are the provisions of the bill now before our Legislature:

SECTION 1. To any will heretofore or hereafter executed the testator may make and annex his petition, to be sworn to before and presented to the surrogate for the county where the testator resided, or to any court or officer having jurisdiction to take probate of wills, asking that such will be admitted and established as his last will and testament.

SEC. 2. Every such petition shall contain averments that such will was duly executed by the petitioner without fear, fraud, importunity, or undue influence, and with a full knowledge of its contents, and that the testator is of sound mind and memory and full testamentary capacity; and shall state the name and address of every person who at the time of making and filing the same would be interested in the estate of the maker of such will as heir, if such maker should at the making of such petition become deceased, and may also contain the names and addresses of any other persons whom such testator may desire to make parties to such proceedings.

SEC. 3. Such court shall thereupon, upon request of such testator, appoint a time for the hearing of such petition, and issue citations to the parties named in such petition, and direct published notice of such hearing, and have such hearing, after proof of service of citations and of publication of notice, in the manner, as near as practicable, as is required for the probate of wills.

SEC. 4. If any person named in such petition shall be a minor, or otherwise under disability, a guardian *ad litem* shall be appointed by such judge to represent such person. On such hearing, such court shall examine into the matters alleged in such petition and into the testamentary capacity of such testator, and examine witnesses in relation thereto; and if it shall appear that the allegations of such petition are true, and that such testator was of sound mind and memory and full testamentary capacity, such judge shall make decree thereon, and shall cause a copy of such decree to be attached to said will, certified under the seal of said court, decreeing that the testator, at the making of such will and such petition, was possessed of sound mind and memory and full testamentary capacity, and that said will was executed without fear, fraud, importunity, or undue influence, which decree shall have the same effect as if made by said court after the death of testator on the probate of such will; and such will, having been so established, shall not be set aside or impeached on the ground of insanity or want of testamentary capacity on the part of the testator, or that the same was executed through fear, fraud, importunity, or undue influence.

SEC. 5. Appeals shall lie in the same manner as from probate of wills.

SEC. 6. Nothing in this act contained shall be construed to prevent the revocation of such will, or alteration, or other change thereof, as in ordinary wills.

CASTOR-OIL AND SCHOOL DISCIPLINE.—According to the "British Medical Journal," castor-oil is employed as a means of punishment in the West Highland School of Lochgilhead, Scotland. Breaches of school discipline are treated by "doses of castor-oil" administered, not in the usually prescribed quantity, but by a draught from the bottle. Whatever laxity exists in that school is certainly not on the part of the teachers.

Original Communications.

THE EFFECTS OF ADDUCTION AND ABDUCTION ON THE LENGTH OF THE LIMB IN FRACTURES OF THE NECK OF THE FEMUR.*

By WILLIAM S. HALSTED, M. D.,

SURGEON TO BELLEVUE HOSPITAL; ASSISTANT SURGEON TO THE ROOSEVELT HOSPITAL.

AGREED though we all are that the pelvis should be horizontal when measurements to determine the relative lengths of the limbs are made from the anterior superior spinous processes of the ilia to the malleoli, very few indeed are familiar with the facts which make it necessary. The reply, that an obliquity of the pelvis causes an apparent difference in the relative lengths of the lower extremities, is true, but does not explain. It implies, to be sure, that one leg is adducted and the other adducted, and yet this of itself might be possible without leading to error by measurement.

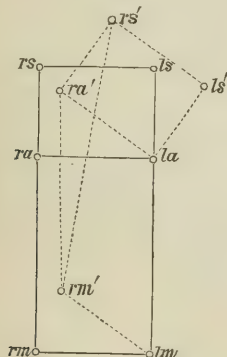


FIG. 1.

Thus, in Fig. 1, let rs and ls represent the anterior superior spines of the ilia, ra and la the right and left acetabula, and rm and lm the right and left malleoli (external or internal). If, now, the pelvis be rotated on an antero-posterior axis passing through the left acetabulum, la , the right malleolus, rm , becomes raised to rm' ; the right leg is adducted and apparently shortened, and the left leg is abducted. Nevertheless, the line $rs'rm' = ls'lm'$, just as before the line $rsrm = ls lm$ did, proving that, if our diagram be correct, measurements from spines to malleoli can determine accurately the relative lengths of the limbs, notwithstanding an obliquity of the pelvis.

But we know, from observation of the earlier stages of hip-joint disease, that, if the diseased limb be adducted and apparently shortened, it will measure longer than the healthy limb; and, conversely, that, if the diseased limb be abducted and apparently lengthened, it will be shorter by measurement than the sound limb.

* Read before the Medical Society of the County of New York, February 25, 1884.

This could not be the case if the spine, acetabulum, and malleolus of one side occupied the same perpendicular line as represented in Fig. 1. We look, then, to the skeleton for an explanation, and find that the spines are farther apart than the acetabula are. In Fig. 2 this is illustrated. Here,

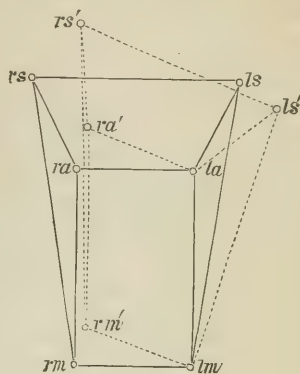


FIG. 2.

too, the line $rsrm = ls lm$, provided the line $rs'ls$ be parallel to the line $rm lm$, or, in other words, provided the pelvis be horizontal. When, however, it is rotated, as before, about an antero-posterior axis through the left acetabulum, la , the line $rs'rm'$ measures more than the line $ls'lm$. Because, then, of the tilting of the pelvis, the adducted left leg measures less than the adducted right leg. Furthermore, the adducted left leg measures less than it did when straight, and the adducted right leg more than it did when straight, as a glance at Fig. 3 will suffice to show.

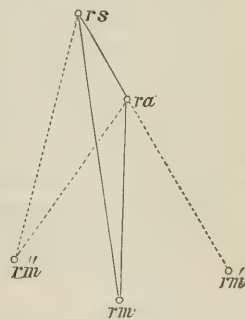


FIG. 3.

In this figure the obtuse-angled triangle $rsra$ has, for the sake of clearness, been separated from Fig. 2, and now it is perfectly evident that when the angle $rsra$ is made less obtuse, as it would be by adducting the leg ra , the line $rsrm'$ measures less than $rsrm$; that is to say, the leg is shortened by measurement from spine to malleolus, and that adducting the leg until the spine rs , the acetabulum ra , and the malleolus rm occupy the same straight line, $rsra rm'$, lengthens the leg by measurement. For in

the one instance (in abduction) we measure one side $rs\ rm$ ", and in the other (in adduction) $rs\ ra + ra\ rm$ of the triangle. A. Nélaton recognized this triangle, and pictures it in his "Éléments de pathologie chirurgicale," tome ii, p. 833.

And, to quote Barwell,* Gädchens, in 1836, called attention to the fact "that when the ilium inclines to one side, its crista must approach the trochanter of the femur; thus, though the whole thigh may sink and appear longer, the measurement between any point of the crista ilii and of the thigh must be shorter than the other limb." I do not understand why he did not (if indeed he did not) draw the complementary conclusion that adduction, up to the extent to which we have already referred, must make the limb measure longer, unless, as is highly improbable, he believed that the spine, acetabulum, and malleolus were normally on the same perpendicular, in which case adduction would make the limb measure just so much shorter as abduction through the same number of degrees would. I say "highly improbable," because Gädchens speaks of a sinking, apparent lengthening, and measured shortening of the abducted thigh. Now, apparent lengthening with measured shortening of the abducted limb would, if the three points above mentioned were on the same perpendicular, only be possible provided the limbs were not approximated; and if Gädchens compared by measurement divergent limbs, irrespective of the angles which they formed with the pelvis, his results could not have been sufficiently constant to enable him to arrive at the conclusions which he did. To confirm, experimentally, that adduction produces lengthening by measurement from spine to malleolus, the writer has driven nails into cadavers at the points mentioned, and found that adduction may give measured lengthening from 2 to 8 mm., and abduction measured shortening from 2 to 4 cm, or thereabouts, in different cases.

Clinically, too, in fractures of the neck of the femur, adduction and abduction probably frequently occur, and to a considerable degree. To recognize these as factors in the deformity is essential for even an approximate estimation of the amount of real as distinguished from measured and apparent shortening. Its recognition is further of importance from the treatment standpoint.

If in fracture of the neck of the femur there be neither abduction nor adduction, the pelvis will be horizontal when the legs are parallel. In such a case the apparent shortening, real shortening, and measured shortening would be practically equal. Thus, in Fig. 4, the apparent shortening = $lm\ y$, the real shortening = $rt\ x$, and the measured shortening = $ls\ lm - rs\ rm$.

When, however, adduction is an element in the deformity, there will be apparent shortening, almost invariably real shortening, and possibly measured lengthening, provided the adduction be considerable and the real shortening not excessive.

This measured lengthening I have once observed in my wards at Bellevue Hospital, and had the opportunity to confirm the diagnosis at the autopsy. The case was reported recently at the surgical society, and the specimen of the fracture, which was intra-capsular, presented.

It is in this particular variety of fracture, when associated with adduction, that the diagnosis might be difficult,

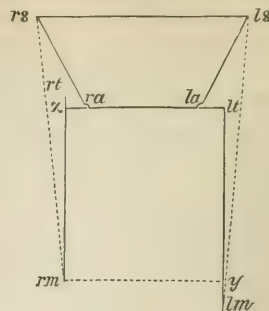


FIG. 4.

if not impossible, unless the special features of the case were recognized.

Lisfranc and Lallemand have each observed a case of fracture of the neck of the femur in which the broken limb was the longer.

Senn,* referring to these cases, says that "it is impossible to conceive in what manner the fracture could add to the length of the limb."

He was evidently unacquainted with the points upon which the writer is dwelling.

The recognition of the adduction is furthermore of importance because, if the limb be allowed to remain in this position, the patient will surely limp when he walks, notwithstanding the fact that there may be measured lengthening and very little real shortening.

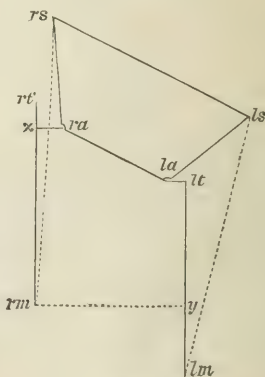


FIG. 5.

In Fig. 5 is outlined a fracture of the neck of the right femur, with adduction. The apparent shortening, $lm\ y$, is excessive, although the real shortening, $rt\ x$, is inconsiderable. The lengthening by measurement equals $rs\ rm - ls\ lm$.

Figs. 6 and 7 represent fractures of the neck of the right femur, with abduction. In 6 there is little abduction and

* Barwell, "A Treatise on Diseases of the Joints," 1861, p. 304.

* "Fractures of the Neck of the Femur," N. Senn. "Transactions of the American Surg. Assoc.," vol. i, 1883.

great real shortening, and, consequently, apparent shortening. In 7, much abduction, little real shortening, and hence ap-

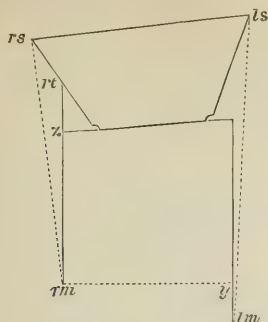


FIG. 6.—FRACTURE OF THE NECK OF THE RIGHT FEMUR, WITH SLIGHT ABDUCTION.

$lm\ y$, apparent shortening; $rt\ x > lm\ y$, real shortening; $ls\ lm - rs\ rm > rt\ x$, measured shortening.

parent lengthening. Although the measured shortening is greater in 7 (the case of apparent lengthening) than in 6, the

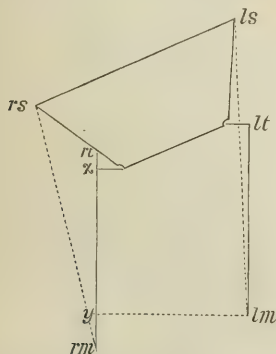


FIG. 7.—FRACTURE OF THE NECK OF THE RIGHT FEMUR, WITH ABDUCTION.

$rm\ y$, apparent lengthening; $rt\ x$, real shortening; $ls\ lm - rs\ rm$, measured shortening.

patient in the case of apparent shortening (Fig. 6) would limp, and in the other might not. Apparent shortening, consequently, is undesirable, and should be overcome if possible. Thus it becomes evident that statistical tables designed to show how much measured shortening may exist without causing a limp, and how little measured shortening occurs in many cases of fractures of the neck of the femur, are worthless unless the adduction and abduction which may have been present were recognized.

König* believes that the amount of apparent lengthening or shortening equals the difference in level between the right and left anterior superior spines of the ilia. That this is not strictly accurate is shown in Fig. 8; for the line $rs\ z$, which represents the difference in the level of the spines, is longer than the line $y\ lm$, which represents the apparent

lengthening. The line $ra\ x = y\ lm$, but, unfortunately, can not be accurately determined on the living subject. Bryant's line, for obvious reasons, is only to be relied upon when the pelvis is straight.

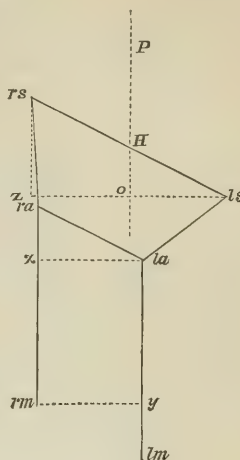


FIG. 8.

To determine, then, approximately, the amount of real shortening, it is best that the pelvis should be horizontal. For the sake of accuracy, a Volkmann's coxanyklometer, or something equivalent, may be employed.

Or, if it be difficult to straighten the pelvis, one might make use of a procedure recommended by Giraud-Teulon. This consists in a geometrical device for determining the distance of either one of the condyles of the femur from the center of the cotyloid cavity. The middle point of a line drawn from the anterior superior spine of the ilium to the tuberosity of the ischium corresponds quite closely to the center of the acetabulum. If, then, a triangle be formed by lines drawn between one of the condyles of the femur, the anterior superior spine of the ilium, and the tuberosity of the ischium, the length of a line let fall from the condyle selected (the apex of the triangle) to the middle of the base line (that drawn from spine to tuberosity) equals the distance from said condyle to the center of the cotyloid cavity, whatever may be the position of the pelvis or femur.

47 EAST TWENTY-FIFTH STREET.

A COMPARISON OF TOTAL AND MANIFEST HYPERMETROPIA, AS DETERMINED BY THE PRISOPTOMETER, WITH AND WITHOUT THE USE OF MYDRIATICS.

By H. CULBERTSON, M. D.,
ASSISTANT SURGEON, UNITED STATES ARMY (RETIRED).

THE "prisoptometer" is an instrument invented by the writer to determine ametropia, through the aid of a prism of glass. A description of it may be found in the "Cincinnati Lancet and Clinic," January 20, 1883, and in the

* "Lehrbuch der speciellen Chirurgie," vol. iii, p. 267.

"Journal of the American Medical Association," January 5, 1884. It should be stated that its results are accurate, and that its application is simple.

The object of this paper is to decide, first, what is the degree of *manifest* hyperopia as shown by the instrument without the aid of mydriatics, and, secondly, to determine by it the total hyperopia after the use of agents which paralyze the ciliary muscle.

0° It should be stated that the scale of the "prismometer" is represented as follows.
90° — 9 It runs from the vertical 0° to 90° on either side, and to the horizontal line.

By reference to the table it will be seen that hyperopic astigmatism, as well as the spherical hyperopia, has been included in the calculations.

The following is a tabulated statement of the cases:

TABLE.

NAME.	No. of case.	Age.	Right or left eye.	Mydriatic used.	Formula for dioptics of hypermetropia total under mydriatic.	Formula for dioptics of hypermetropia manifest without mydriatic.	Sum of dioptics of hypermetropia total.	Sum of dioptics of hypermetropia manifest.	Per cent. of hypermetropia manifest.	Sum of dioptics of hypermetropia total for each class of five yrs.	Sum of dioptics of hypermetropia manifest for each class of five yrs.	Per cent. of hypermetropia manifest for each class of five yrs.
M. W. H.	1	11	L.	Duboisine.	+ 0.75° + .5°	+ 0.75°	0.75	0.75	100.00	13.25	11.75	88.67
C. L.	2	12	R.	"	+ 5.00°	+ 5.00°	5.00	5.00	100.00			
C. L.	3	12	L.	"	+ 6.00°	+ 6.00°	6.00	6.00	100.00			
A. J. T.	4	15	R.	"	+ 0.75°	Normal.	0.75	0.00	0.00			
A. J. T.	5	15	L.	"	+ 0.75°	Normal.	0.75	0.00	0.00	7.75	5.75	74.19
W. Mc.	6	16	R.	"	+ 1.00° — .75° ax. 90°	+ 1.00° — .75° ax. 90°	1.00	1.00	100.00			
W. Mc.	7	16	L.	"	+ 1.00° — .25° ax. 90°	+ 1.00° — .5° ax. 90°	1.00	1.00	100.00			
S. M. O.	8	17	R.	Homatropine.	— 0.25° + 2.5° ax. 30° r.	— 1.00° + 2.5° ax. 30° r.	2.50	2.50	100.00			
S. M. O.	9	17	L.	"	— 0.25° + 1.25° ax. 40° l.	— 1.00° + 1.25° ax. 40° l.	1.25	1.25	100.00	14.75	6.75	45.75
I. S.	10	20	R.	Duboisine.	+ 1.00°	Normal.	1.00	0.00	0.00			
I. S.	11	20	L.	"	+ 1.00°	Normal.	1.00	0.00	0.00			
L. E. G.	12	21	R.	Homatropine.	+ 1.25° ax. 0°	+ 0.50° ax. 0°	1.25	0.50	40.00			
L. E. G.	13	21	L.	"	+ 1.00° ax. 0°	+ 0.50° ax. 0°	1.00	0.50	50.00	10.00	2.00	20.00
M. B.	14	23	R.	Duboisine.	+ 0.50°	— 0.50° + 0.25° ax. 10° r.	0.50	0.25	50.00			
M. B.	15	23	L.	"	+ 0.50°	— 0.50° + 0.25° ax. 10° l.	0.50	0.25	50.00			
H. G. W.	16	24	R.	"	+ 1.75° — 0.75° ax. 90° r.	+ 1.75° — 0.75° ax. 90° r.	1.75	1.75	100.00			
H. G. W.	17	24	L.	"	+ 1.75° — 0.75° ax. 90° l.	+ 1.75° — 0.75° ax. 90° l.	1.75	1.75	100.00	8.75	2.00	22.86
J. S. B.	18	24	R.	"	+ 6.00° + 0.50° ax. 50° l.	+ 1.25° + 0.50° ax. 50° l.	6.50	1.75	26.92			
J. A.	19	25	R.	"	+ 0.75°	Normal.	0.75	0.00	0.00			
J. A.	20	25	L.	"	+ 0.75°	Normal.	0.75	0.00	0.00			
M. R.	21	27	R.	"	+ 2.50° — 0.50° ax. 90° r.	+ 1.00°	2.50	1.00	40.00	1.50	1.00	66.66
M. R.	22	27	L.	"	+ 3.50° — 0.25° ax. 20° l.	+ 1.00°	3.50	1.00	29.57			
J. B. E.	23	28	R.	"	+ 1.00° — 0.50° ax. 40° r.	Normal.	1.00	0.00	0.00			
J. B. E.	24	28	L.	"	+ 0.50°	Normal.	0.50	0.00	0.00			
H. R. S.	25	28	R.	"	+ 0.50° + 0.75° ax. 90° r.	Normal.	1.25	0.00	0.00	11.50	10.50	91.30
H. R. S.	26	28	L.	"	+ 0.75° + 0.50° ax. 90° l.	Normal.	1.25	0.00	0.00			
H. M.	27	31	R.	"	+ 0.50° ax. 50° r.	+ 0.50° ax. 50° r.	0.50	0.50	100.00			
G. N. W.	28	31	L.	"	+ 0.50°	Normal.	0.50	0.00	0.00			
L. W.	30	33	R.	"	+ 0.75° — 0.25° ax. 90° r.	+ 0.25° ax. 90° r.	0.75	0.25	33.33	67.50	39.75	58.88
L. W.	31	33	L.	"	+ 0.75°	Normal.	0.75	0.00	0.00			
O. T.	32	33	R.	"	+ 0.25°	+ 0.25° ax. 0°	0.25	0.25	100.00			
O. T.	33	33	L.	"	+ 1.25° — 1.00° ax. 90° l.	+ 0.75° 0° — 0.5° ax. 90° l.	1.25	0.75	60.00			
M. F. T.	34	33	R.	"	+ 1.00°	Normal.	1.00	0.00	0.00	1.50	1.00	66.66
M. F. T.	35	33	L.	"	+ 1.00°	Normal.	1.00	0.00	0.00			
C. C. G.	36	34	R.	"	+ 1.00°	+ 0.25°	1.00	0.25	25.00			
C. C. G.	37	34	L.	"	+ 1.00°	— 0.25°	1.25	0.00	0.00			
R. W.	38	45	R.	Atropine.	+ 1.50° — 0.50° ax. 90° l.	+ 1.00°	1.50	1.00	66.66	11.50	10.50	91.30
J. J. R.	39	52	R.	Duboisine.	+ 1.75°	+ 1.50°	1.75	1.50	85.71			
J. J. R.	40	52	L.	"	+ 1.75°	+ 1.75°	2.00	1.75	87.50			
W. B.	41	59	R.	"	+ 2.00°	+ 1.75°	1.75	1.75	100.00			
W. B.	42	59	L.	"	+ 2.00°	+ 2.00°	2.00	2.00	100.00	1.25	1.25	100.00
P. M.	43	60	L.	"	+ 0.50° — 0.75° ax. 90° l.	— 0.75° ax. 90° l.	0.50	0.00	0.00			
W. W.	44	77	R.	"	+ 1.25°	+ 1.25°	1.25	1.25	100.00			
W. W.	45	77	L.	"	+ 2.25°	+ 2.25°	2.25	2.25	100.00			
Total.							67.50	39.75	58.88			

Each eye examined, in the same individual, is regarded as a case.

The least degree of *manifest* hyperopia observed in the table is in Case 36, in a patient aged 34 years—viz., 25 per cent. It follows, in this example, that there is shown the greatest increase of *total* hyperopia, 75 per cent.

In Cases 1, 2, 3, 6, 7, 8, 9, 16, 17, 27, 32, 41, 42, 43, 44, and 45 (= 16 cases) the *manifest* hyperopia, without the aid of mydriatics, was equal to 100 per cent. In some of these examples the degree of hyperopia was high, in several very low, but in most cases it was medium.

In the following cases no manifest hyperopia was observed without the use of mydriatics: 4, 5, 10, 11, 19, 20, 23, 24, 25, 26, 28, 29, 31, 34, 35, and 37. In each of these 16 cases the *total* hyperopia was of low degree.

If the sum of the dioptics, in the 45 cases, of *total* and *manifest* hyperopia be estimated *before* and *after* the employment of mydriatics, there will be found:

67.50 dioptics of hyperopia total.

39.75 " " manifesta, and hence
27.75 " " increase, as an average for

all the examples of the table = 41·12 per cent., and due to the influence of mydriatics.

The proportion of *manifest* to *total* hyperopia, deduced from the 67·50 *total* and the 39·75 *manifest*, as above, for all the cases, is 58·88 per cent. *manifest*, which is an average result for all the members of the table, and shown without the use of mydriatics.

If the cases of the table be excluded above the age of 45 years, then, in the 38 cases remaining, the sum of *total* and *manifest* hyperopia will be:

54·50 dioptrics of hyperopia *total*.

28·25 " " *manifesta*,

26·25 " " increase = 48·16 per cent., and due to the agency of mydriatics.

From these figures 54·50 and 28·25, dioptrics, the per cent. of *manifest* hyperopia, up to the age of 45 years, and without the aid of mydriatics, is 51·84.

If the table be classified in periods of five years, and the sum, each, of *total* and *manifest* hyperopia be computed for these several classes, the following record will be shown:

AGE—YEARS.	H. total D.	H. manifest D.	Hm. per cent.
11 to 15.....	13·25	11·75	88·67
16 to 20.....	7·75	5·75	74·19
21 to 25.....	14·75	6·75	45·75
26 to 30.....	10·00	2·00	20·00
31 to 35.....	8·75	2·00	22·86
36 to 40.....	No cases.		
41 to 45.....	1·50	1·00	66·66
Over 45.....	11·50	10·50	93·30

According to these data, children from 11 to 15 years of age develop more *manifest* hyperopia than persons aged from 16 to 20, and from 21 to 35 years *this* diminishes to 22·86 per cent., and that after 45 years the *manifest* hyperopia increases to 91·30 per cent. These percentages are based on the sum total of hyperopia for each class.

Age, therefore, according to these results, is associated with a gradual diminution of *manifest* hyperopia from 11 to 44 years, after which age *this* increases and is nearly equal to the *total* hyperopia.

This does not correspond with Hirschberg's conclusions, as reported by Louis Daniel (Berlin), (see "Ophthalmic Review," October, 1883), who finds that from 26 to 35 years Hm. = 75 per cent., whereas the foregoing table reveals *manifest* hyperopia equal to (within the same age-period) 42·86 per cent. only. From 36 to 45 years the same observer found 80 per cent. of Hm., while the table for this age-period reveals hyperopia *manifesta* = 89·52 per cent. Perhaps a portion of this discrepancy is due to the fact that there is but one case in the table aged 45 years. Another cause of the disagreement cited may be that, in all this gentleman's cases mentioned, the hyperopia *total* was determined by direct ophthalmoscopic examination, and hence the full amount of hyperopia may not have been found, at least not so great a degree of *this* as would have been discovered had mydriatics been employed, especially duboisine.

On the other hand, it is probable that the degree of *manifest* hyperopia developed through the instrument is not erroneous, because its records correspond so nearly in the

age-period, 6 to 25 years, with the Hm. found by Hirschberg; and, moreover, its results are practically the same as those detected in the cases of the table in distant vision with the test types of Snellen. Further, it should be stated that, in testing with this instrument, the eye not under examination is closed, the "object-plate" is placed at twenty feet from the observer, and, consequently, parallel rays of light are employed during the test, all of which favor the development of *manifest* hyperopia.

It should be added, too, that an instrument which is capable of recording 88·67 per cent. of Hm. in those aged from 11 to 15 years can not be defective in its operation in those of greater age.

The cases given in the table are all uncomplicated.

The average number of *dioptrics* for the 45 cases is 1·5 H. total, and 0·88 Hm.; so that the low average degree of hyperopia can not be the cause of the diminution of the Hm. between the ages from 30 to 40 years.

The decrease in the power of the ciliary muscle, due to advancing age up to 45 years, should increase the *manifest* hyperopia; but the table reveals that, from 11 to 28 years, the Hm. steadily diminished to 20·00 per cent. of the total H. On the other hand, the total H. gradually increased to 80·00 per cent. in the same age-class.

There has been no creation of hypermetropia, which has simply diminished as *manifest* and increased as latent hyperopia, and the reduction of the former has decreased as the power of the ciliary muscle is weakened, as the age approaches 45 years.

It is quite evident, too, that, while using the instrument to detect low degrees of hyperopia, the ciliary muscle does not relax, but, by its *positive contraction*, maintains and overcomes the manifestation of a portion of the hyperopia, so that only when this muscle is paralyzed can the total hyperopia be obtained, up to 45 years of age.

Before and including the latter age, the table reveals in these cases that there remained enough, or an excess, of *ciliary power* to maintain the diminishing hyperopia *manifesta* present after the total H. had been deducted from the dioptrics of ciliary power present in each case, according to the age. This is shown in the following table:

NO. OF CASE.	Age, years.	Ciliary power for the age, in dioptrics.	Dioptrics of total H.	Dioptrics, excess of ciliary power.	Dioptrics of Hm.
2	12	13·00	5·00	D8·00	D5·00
3	12	13·00	6·00	D7·00	D6·00
4	15	12·00	0·75	11·25	D0·00
8	17	9·00	2·25	6·50	D2·50
18	24	8·50	6·50	2·00	D1·75
33	33	5·50	1·25	3·25	D0·75
38	45	3·50	1·50	2·00	D1·00

After 45 years of age the records of the table suggest the presence of other influences in the eye, which determine an increase of the Hm. as well as the diminution of the ciliary power.

CONCLUSIONS.

1. That through this instrument from 50·00 to 100·00 per cent. of *manifest* hyperopia can be detected.
2. That with it there is shown, from 10 to 45 years of age, a gradual diminution of manifest hyperopia.

3. That through its aid high degrees of hyperopia will reveal a greater quantum of manifest hyperopia.

4. That its results denote that low as well as high grades of hypermetropia, both *manifest* and *total*, may be detected by the instrument; but that mydriatics will be required to determine positively the *total* hyperopia.

Perhaps it should be stated that this instrument is manufactured by Messrs. George Tiemann & Co., 67 Chat-ham Street, New York.

ZANESVILLE, OHIO, February 5, 1884.

THE PREVENTION OF PUERPERAL INFECTION.

A STUDY OF ANTISEPTIC PRACTICE IN THE MATERNITY HOSPITALS OF PARIS, PRAGUE, BERLIN, PARMA, GLAS-GOW, COPENHAGEN, AND NEW YORK.

By SIMON BARUCH, M.D.,

GYNÆCOLOGIST TO THE NORTHEASTERN DISPENSARY.

IN the "New York Medical Journal" of March 1, 1884, Dr. H. J. Garrigues contributes a paper in which he inveighs with some warmth against certain views which I had expressed in a recent paper ("Medical Record," February 16, 1884) on the subject of "Prophylactic Vaginal Injections after Normal Labor."

I hail with pleasure any method which will render the puerperal period more comfortable and more free from complication, and for this reason I have indorsed Dr. Garrigues's method, of the success of which in the New York Maternity Hospital he has reason to be proud. But I took issue with Dr. Garrigues only in regard to the *modus operandi*. I hold that the advantage of his method arises not from the antiseptic napkin which he has introduced, nor from the substitution of bichloride-of-mercury injections during labor, which had been already used in Germany and France, but from the scrupulous cleanliness, in which he is a worthy follower of his countryman Stadfeldt, and chiefly from the abolition of the prophylactic injections after normal labor, which I have demonstrated as useless and dangerous. In other words, Dr. Garrigues is more successful than his predecessors, because he leaves the utero-vaginal tract at rest as well as the parturient woman.

Like all other innovators, Dr. Garrigues feels a pardonable love for his bantling, and defends it with that earnestness which characterizes all his work. But his parental jealousy so blinds him that he strikes against the only (published) defender of his method, and accuses him of "unwarranted conclusions from his paper" and of insinuations upon his "judgment, discrimination, and bias."

I will not reply to his strictures, except to say that I have quoted verbatim from his PUBLISHED paper. Of his unpublished practice I knew nothing. I entertain too high a regard for Dr. Garrigues, as an honest investigator and earnest worker in his chosen field, to attempt a merely polemic contest with him, especially as such a discussion would be of no value or interest to the readers of this journal. I can not, however, allow his allusions to and implied defense of the value of prophylactic vaginal injections after normal labor to pass unchallenged.

Dr. Garrigues says in his last paper: "The hue and cry recently raised against vaginal injections exaggerates, in my opinion, very much the danger of this mode of treatment."

As I have been chiefly instrumental in raising this "hue and cry," I may be permitted to offer some new and very striking evidence to sustain my position. In my papers, and in my remarks during the discussion of this subject, I have again and again emphasized the inutility and harmfulness of prophylactic injections. It is true, they came in, as Dr. Garrigues says, with the improved antiseptic method, but it is also true that they have been abandoned, just as the intra-uterine injections for prophylaxis have been abandoned; more slowly, perhaps, than the latter, because their inutility and harmfulness were not so pronounced as those of the former. When intra-uterine injections for prophylaxis were introduced in Germany by Fritsch, a great improvement was at once noticed in the morbidity and mortality of childbed. But very soon their capacity for harm was discovered, and, all along the line where they had been enthusiastically praised, the tocsin of danger sounded. They offered an improvement upon former methods, but they proved dangerous. Vaginal injections were retained, but these are now fast meeting the fate of intra-uterine prophylactic injections.

In a recent work* the subject of antisepsis in midwifery practice has received a very complete and exhaustive treatment, and I avail myself of information obtained from so authoritative a source to fortify a position which I have assumed only after careful observation at the bedside. The arguments and statistics which I have up to this time brought to bear in opposition to prophylactic vaginal injections were the offspring of investigations made since my clinical experience forced me to abandon them. And so it is with the material I now propose to use, some of which came into my possession only a few days ago.

Dr. Paul Bar is chef de clinique adjoint d'accouchements under the apostle of obstetric antisepsis in France, Dr. Tarnier, who was the first to recommend the now popular bichloride-of-mercury solution in midwifery practice at the International Medical Congress in 1876. Dr. Bar presents a *résumé* of all that is known upon the subject, and sums† up his views under the first head, "Treatment after Natural Delivery," with which we are now chiefly concerned, as follows: "We need not repeat all the general precautions which should be taken—disinfection of the medical and auxiliary *personnel*, rooms, etc. We have sufficiently insisted upon these points, etc. There is one chief rule from which we should not depart: *we should avoid doing too much; that which is useless is dangerous* [*italics mine*]."

"Immediately after the termination of labor the external organs of generation should be carefully washed with an antiseptic solution (corrosive sublimate, 1 to 2,000), not the slightest clot of blood being allowed to remain upon the hairs which cover the vulva, etc.

"After this, a dressing should be applied with the greatest care to the vulva, in accordance with the antiseptic method.

* "Des méthodes antiseptiques en obstétrique," par le Dr. Paul Bar. Paris: Alex. Coccoz, 1883.

† P. 201.

"A large strip of carbolized, salicylated, or benzoated gauze, doubled in many folds, covered by a strip of Macintosh, is now applied to the vulva. Carbolized gauze is very irritating, and, after a few days, a very painful eruption is observed upon the neighboring parts. We may in this case have recourse to compresses of gauze saturated with a solution of corrosive sublimate, 1 to 2,000.

"Salicylated and carbolized wadding, etc., render great service, and may be substituted for the gauze with advantage. Oakum is very much used as a dressing by Freund. Whatever be the antiseptic selected, it should be renewed three or four times a day, more frequently if the lochial flow be very abundant."

He proceeds to state the teachings of Fritsch on the necessity for vaginal injections after labor, which he says "a jouti d'une certaine faveur." Continuing, he says: "*The vaginal injections in the cases now under consideration have been experimented with in the Maternité; to-day they are no longer resorted to; they fatigue the women; they are really only employed when the lochia are retained in the vagina, or when they are 'odorantes.'* If we should resort to them in all cases without distinction, they may overreach our end and become harmful, because, as Brünneke has shown, there is risk of introducing into the vagina an improper instrument, and of producing accidents.

"To sum up (p. 208), we should content ourselves with applying dressings to the vulva. They suffice to protect the sick against all accidents."

Thus, it will be seen, the author's treatment, culled from the most successful methods, furnishes not only a demonstration of the correctness of my own position regarding prophylactic vaginal injections, but I quote it also in order to give, from an authoritative source, that support to Dr. Garrigues's antiseptic method which it has not received in this country.

The details of various methods of obstetrical antiseptics and their result in some large institutions in Europe may not be devoid of interest. I will quote them briefly, in order to show that "the hue and cry recently raised against vaginal injections" is well founded upon practical evidence.

In the Paris Maternité (p. 101) the antiseptic plan has been for some time the same as that practiced by Dr. Garrigues with so much success. In the "Pavillon Tarnier" there were, from 1876 to 1879, inclusive, 788 deliveries with six deaths, only eleven cases of puerperal infection having been observed. From 1880 to June 4, 1883, inclusive, there were 692 deliveries, with *not a single death*, and only six cases traceable to puerperal infection.

In Prague the procedure of Breisky, who had *not a single death* in 1882 from puerperal infection, is worthy of note, because it emphasizes what I have said on the subject of cleanliness being more important than antiseptics, and it also affirms the inutility of injections during ordinary labor and during the puerperal period, unless specially indicated. In a letter of Dr. Fischel, who is Breisky's assistant, to Dr. Paul Bar (p. 111), Fischel says: "We never forget the soap, which we regard as more important than carbolic acid. Before the touch, the fingers are carefully washed with soap and carbolized water by means of a large brush;

the nails, always cut very short, are scoured with the greatest care. The disinfection of the attending *personnel* is urged to a very high degree. We do not remember having seen in this hospital a midwife presenting the slightest spot on her hands. For the touch, a five-per-cent. carbolized vaseline is used. *During the labor, vaginal injections are not practiced.* In Breisky's service this procedure was resorted to about ten times only, when the vaginal secretion was very abundant or decidedly purulent. In simple leucorrhœa the vaginal douche is superfluous. *But all that is superfluous must be avoided*, for we do not know but that it may be dangerous. If the number of students examining be considerable, vaginal injections are given during labor. If the labor has been normal, an irrigation with a two-per-cent. carbolized or ten-per-cent. chlorinated solution is made level with the vulva. Any small fissures or contused wounds of the vulva are covered with iodoform. Sutures are used at once if necessary. After every operation a vaginal injection is made with a five-per-cent. carbolized solution. If the introduction of the hand into the uterus had been required, an intra-uterine injection is made; but never is the syringe resorted to; the irrigation is always used for this purpose, with a five-per-cent. carbolized solution, of which two to six litres are passed into the uterine cavity. After the birth of a macerated fœtus, or if there be fever present during labor, these injections are also resorted to. It is unnecessary to state that after every operation—forceps, version, etc.—a vaginal injection is always made. In this service only one third of the cases require vaginal injections; *they are resorted to only where there are precise indications*, over-secretion of lochia, putrid lochia, with or without fever, purulent vaginitis, etc.

"In these exceptional cases small iodoform pencils are introduced. All dressings are made for the purpose of protecting the sick; the best disinfection consists in avoiding infection. Rarely are intra-uterine injections resorted to, and they are always administered by the physician.

"In cases of purulent infection we are generally contented with practicing vaginal injections; ulcerations of the vagina, vulva, or cervix uteri are treated by a saturated solution of permanganate of potash or strong tincture of iodine. Let us add that in all vaginal injections glass tubes are used. In the service of Professor Weber the method employed is nearly the same, except that he uses tampons of chlorinated wadding as a direct application to the vulva."

Now, what has been the result of this rational antiseptics, which avoids all unnecessary elements? In the Prague Maternity the mortality was as follows in late years: In 1879 it was 0.36 per cent., in 1880 it was 0.46 per cent., in 1882 it was 0.56 per cent., in the entire hospital. In Breisky's division there was *not a single death*, and there were only ten cases of puerperal infection in 1882.

In Copenhagen the mortality has been wonderfully small, both in hospital and private practice, since 1876. In 1876 it was 0.6 per cent., in 1877 it was 0.7 per cent., in 1878 it was 0.8 per cent., in 1879 it was 0.6 per cent., in 1880 it was 0.26 per cent., in 1881 it was 0.5 per cent., in the Maternity, and, what is remarkable, the mortality was even smaller in private practice, except in 1880 and 1881. Let

us see how we can account for this small mortality. The antiseptic method adopted by Stadfeldt is as follows: "Every female is received in a special room, where she is examined by the chief midwife, one of the physicians, and one or two pupils. A two-per-cent. vaginal injection is made with the greatest care. After every examination the hands are minutely washed with soap and brush, and disinfected with a 2·5-per-cent. carbolized solution. The fingers are lubricated with a ten-per-cent. carbolized oil, or ten-per-cent. salicylic ointment. The woman is transferred to the accouchement service, which is distinct in all respects from the lying-in service. During the labor a vaginal injection is given every two to ten hours. When the head appears, a cloud of carbolized solution is projected against the generative organs. After delivery a vaginal injection is given. Intra-uterine injections are reserved for the cases in which an operation has been done, or when the membranes have been retained. In perineal rupture immediate suture is made, and the wound is dressed with a tampon saturated with ten-per-cent. carbolized oil. We never resort to sponges in this hospital. About an hour after delivery the woman is transferred to the lying-in service.

"If everything is normal, the external organs are washed two or three times a day with carbolized water. *Vaginal injections are reserved for cases in which the lochia are fetid, or analogous cases.* Intra-uterine injections are not resorted to except in cases in which retained placental debris are putrefying. So soon as signs of puerperal infection manifest themselves in a woman, she is at once transferred to the hospital, and the midwife is carefully disinfected."

Bar remarks (p. 117) that the antiseptic method is also enforced with great care among the midwives and in private practice in Copenhagen.

For the purpose of comparison, I will now present some statistical evidence which must sustain my "hue and cry against vaginal injections."

From the Charité at Berlin, Hartmann* reports for 1878, 908 deliveries, with 23 deaths, being 2·5 per cent. The antiseptic method adopted in this division is as follows: The women are isolated; every woman receives a bath and a vaginal injection before labor. *Twice a day she receives, after labor, two vaginal injections.* Uterine injections are resorted to only for cases of puerperal infection.

In the Maternity Hospital at Parma† all antiseptic precautions are taken: "the nails are scrupulously cleaned, the hands are washed with a solution of permanganate of potassium, glass tubes are used for the *vaginal injections*, etc. The average mortality from 1876 to 1880 is reported 3·42 per cent."

In the Charité, at Berlin, since 1879, Gusserow orders disinfection of physicians, midwives, nurses, students; careful disinfection and cleansing of the bed, the parturient woman, and all utensils are watchfully effected. At the beginning of labor a scrupulous cleansing of the genital organs and a vaginal injection with weak carbolized solution, and a bath, if possible, are given. If labor is protracted or examinations are numerous, the vaginal douche is repeated, also

immediately after labor. After all manipulations within the uterus, and after all operations, the uterus is irrigated with a 3-to-5-per-cent. carbolized solution, also after the birth of a macerated fetus, etc. "*During childbed, I order in most cases vaginal injections twice a day, in order to remove the lochial secretion.*" "I acknowledge here, at the risk of saying something heretical, that I regard exemplary cleanliness as the principal thing, and disinfection only as a valuable auxiliary which is not to be omitted."

The result in the Charité, from 1879 to 1881, inclusive, under Gusserow's administration, was an average mortality of 1·5 per cent.

For 1882, Sommerbrodt reports from Gusserow's wards a mortality of 1·6 per cent. ("Charité Annalen," 1882).

From the Glasgow Maternity, Dr. Sloan communicates that the antiseptic method, which had not been thorough until within two years, is as follows: The pregnant females are well nourished and live as much as possible in the open air. Every woman in labor takes a bath before admission into the accouchement ward. Before each examination the physicians wash their hands and nails with carbolized water and soap. Once the delivery is accomplished, every woman receives an intra-uterine injection of carbolized water, during which operation all clots are pressed out of the uterus. In a few hours she is transferred on a litter to the lying-in-ward.

Evening and morning, during her sojourn in the hospital, every woman who has been delivered receives a vaginal injection of carbolized water; on the sixth day after delivery a pessary of eucalyptus is placed within the os uteri; immediately after each injection the linen used in the dressings is disinfected by sulphur vapor in a special disinfecting chamber. The alternation of wards after disinfection by sulphur is practiced when possible.

There were 383 deliveries and 25 operations, with 5 deaths, from 1881 to May, 1883.

In order to bring out the more striking points of these statistics, derived from large lying-in institutions, in a salient manner, I will group side by side the percentage of mortality reported by those obstetricians who habitually resort to prophylactic vaginal injections after normal labor, and those who abstain from this interference with the natural processes, trusting to scrupulous external cleanliness and antiseptics.

Hospitals in which injections are practiced.	Mortality, per cent.	Hospitals in which injections are not practiced.	Mortality, per cent.
Charité (Hartmann).....	2·5	Pavillon Tarnier, Paris, 1880, to June, 1883....	0
Charité (Gusserow). Average 1879 to 1881, inclusive.....	1·5	Prague Maternity, 1880 (Breisky and Weber)...	0·46
Charité (Gusserow). Sommerbrodt, 1882.....	1·6	Prague Maternity, 1880 (Breisky and Weber)...	0·56
Maternity at Parma.....	3·42	Breisky (Fischel),* 1881...	0·21
Glasgow Maternity (new building).....	1·56	Breisky's ward alone, 1882.	0
		Copenhagen Maternity, 1880	0·26
		" " 1881.	0·5
		Prague,† 1883, 1,100 cases.	0
		New York Maternity, third series, Dr. Garrigues....	0

* "Charité Annalen," 1880, p. 661.

† "Gazzetta delle Cliniche di Torino," No. 7 e 8, anno 1881.

* "Archiv für Gynäkologie," Bd. xx, Heft 1.

† Remarks by Dr. Lusk, in discussion of Dr. Thomas's paper.

In compiling these statistics, I have exercised the greatest care to exclude all institutions whose methods of antiseptics are not clearly defined in published records. It has been my aim to further the progress of puerperal management by pointing out that, while the improvement in such hospitals as the Charité has been remarkable since the adoption of strict antiseptic cleanliness, there is still a vast difference in favor of such hospitals as those of Prague under Breisky and of Paris under Tarnier, the mortality in the Charité being, say for 1882, 1·8 per cent., and the mortality under Breisky and Tarnier, for the same year, *nil*. Wherein lies the difference in the antiseptic methods of these institutions? *Chiefly, perhaps solely, in the use of prophylactic vaginal injections after normal labor.* It may be said that I am prejudiced in favor of this view. *Let the figures testify!*

In conclusion, I desire to quote some recent utterances on the subject of prophylactic vaginal injections.

Dr. Paul Bar says, in discussing the *puerperal treatment*, after artificial labor even (p. 217):

Voici quelle est, d'après nous la conduite la plus sage. Tant qu'aucun signe fâcheux ne sera apparu, *on devra se borner à faire avec le plus grand soin des lavages vulvaires; si les lochies sont fétides, on aura recours aux injections vaginales.* Dès le premier symptôme d'infection, frisson, fièvre, on aura recours aux injections intra-utérines.

On le voit, pour nous, la méthode antiseptique ne consiste pas à vouloir intervenir quand même. En obstétrique comme en chirurgie on ne doit jamais obéir qu'à des indications précises.

Or, quand pendant les suites de couches, tout est régulier, il est tout indiqué de *s'abstenir de ces injections vaginales répétées.*

Rücksichtlich der Prophylaxis verwirft Breisky sowohl uterine—abgesehen von bereits eingetretener Zersetzung des Uterusgehaltes—wie vaginale Ausspülungen gänzlich. Bei normalem Verlauf hält er mit Spiegelberg, "das in Ruhe lassen" des puerperalen Genitalrohres für das beste Verhalten. Auch Breisky hat sich nicht überzeugen können dass der Weg zur noch grösseren und sicheren Einschränkung der puerperalen Mortalität auf der Seite einer besonderen activen, mit regelmässigen Injektionen in den inneren Genitalien operirenden Prophylaxis zu finden sei.*

Writing of prophylaxis during menstruation, in cases of uterine catarrh, Professor Schultze, of Jena, recommends an external pad of salicylated wadding and carbolized injections into the vagina, etc. "Ein ähnliches Verfahren empfiehlt Verfasser auch den Wöchnerinnen, jedoch mit der Ausnahme der Ausspülungen, weil hierbei durch die selten fehlenden kleinen Wunden, durch das Klaffen des Vulvarandes, durch etwaige Unsauberkeit des Wartepersonals, leicht Gelegenheit zur Infection gegeben werden kann."†

"Are not absolute rest and freedom from disturbance of these tissues (of the lacerated and bruised parturient canal) much more favorable to their restoration than any washes that can be used? Since that time I have considerably surprised my old nurses by directing that *injections should*

never be used unless specially ordered" (Dr. Fordyce Barker* in discussion of Dr. Thomas's paper). "The arguments which have been brought against the practice (vaginal injections every eight hours after labor) since I read my paper have had great weight with me. I confess I feel less firm in my conviction upon this point than I did, and that in future I will examine the question carefully ere I determine to adhere to my plan. You may ask, Why this change of opinion? My answer is that I strive to mend the faults of yesterday with wisdom of to-day" † (Dr. Thomas in his closing remarks).

And, lastly, I would quote Dr. Garrigues himself: "By the effective antiseptic treatment at the entrance, preventive injections become superfluous, and thus *one great source of infection is avoided.*" ‡ His own testimony should convince Dr. Garrigues that he is in error when he asserts that "the hue and cry recently raised against vaginal injections exaggerates very much the dangers of this mode of treatment." It appears to me that the statistics here furnished from the best hospitals and from the most careful followers of obstetric antiseptics, together with the abandonment of prophylactic vaginal injections by Dr. Fordyce Barker, who was the Coryphæus of their employment in this country, and by Dr. Thomas, who not long ago advocated them, should give the *coup de grâce* to this mischievous practice, which I first condemned in the County Medical Society on December 21, 1883. Since that time I have received numerous communications from physicians in various sections of this country, cordially approving my course in opposition to an over-active obstetric prophylaxis. Some of these writers state that they have used vaginal injections after labor "because they are cleansing" and "render the patient comfortable," and they assert that they "have *not yet* discovered harm from them," etc. May their experience not be parallel to mine? I was long loath to admit that these injections, which *seemed* so cleanly and innocuous, could possess an element of danger, until stubborn clinical facts forced the conclusion upon me.

One of my correspondents tells me that he uses the vaginal douche freely, and has "not yet had any reason to think that any septic influences had been occasioned by its use." He states, however, that he had in his private practice one fatal case of puerperal septicaemia last year.

Another gentleman reports to me a case of puerperal infection, also fatal, occurring during the latter part of the second week in a patient whom he had dismissed after a good labor and one week's attendance. He had ordered the vaginal injections to be used during the first and second weeks of the lying-in.

Every physician in large practice may call to mind cases of fever for which he could assign no cause, and in which every precaution (even carbolized vaginal injections) was resorted to.

If the douche was not instrumental in these cases in producing or favoring the development of puerperal infection, it can not be denied that it failed in its mission of prophylaxis.

* "Berliner klinische Wochenschrift," December 20, 1880.

† "Wiener med. Blätter," Bd. v-52, 1882.

* "N. Y. Med. Journal," February 16, 1884.

† "Med. Record," December 20, 1883.

‡ *Ibid.*

Breisky and Tarnier say: "Everything that is useless is dangerous."

To those physicians who reason upon this subject from their own experience, which must necessarily be small when compared with the experience of such men as Breisky and Tarnier and Stadfeldt, I would commend the careful perusal of these pages. I have offered practical facts, not theoretical arguments, to demonstrate that vaginal injections after normal labor and in the normal puerperal period are not only devoid of value as a prophylactic measure, but that they "may prove a veritable Trojan horse, admitting the enemy whom we are energetically striving to deny entrance into the precincts of the vagina, and thus letting loose the destructive elements among the torn and raw surfaces which expose the lymphatics."*

In conclusion, I offer the following as a comprehensive method of management of labor and puerperal cases, which I have adopted in *private practice*. The general health of the expectant mother should be carefully looked after about one month previous to the expected time of confinement. The urine should be carefully examined, not in the perfunctory way in which this work is usually performed, viz., by heat and nitric acid. The specific gravity, the reaction, and the quantity passed during twenty-four hours should be ascertained. The microscope is the only sure guide to indicate kidney troubles, which may escape the chemical tests. Specimens containing scarcely a trace of albumin, and even specimens presenting no evidence of the presence of albumin to the usual tests, have been examined by myself, with the discovery of tubular epithelium and pus corpuscles, and other specimens have indicated the presence of renal inadequacy, a condition recently described with much ability by Sir Andrew Clark, of London. The latter involves a more serious prognosis in labor cases than a trace of albumin would indicate. A persistent specific gravity below 1.012 should arouse suspicion of its presence. A careful study of the chemical condition of the urine, its exact specific gravity, and its power to eliminate urea and its compounds, and a thorough microscopical investigation of its sediments, will often afford a clew to serious complications in labor which in the past have been mysterious, but which may now be prevented or ameliorated if their origin is discovered in time.

The lying-in chamber should receive special attention; its furniture, carpets, and walls should be cleansed with great care, and kept clean and pure by frequent ventilation and exposure to the sunlight. Modern hygiene teaches the methods by which a correct sanitary condition may be obtained, and every well-informed physician is competent to direct the management of the lying-in chamber with reference to heat, light, and ventilation. Antiseptics, for the purpose of destroying germs on the furniture and bedding, are unnecessary and certainly inefficient, unless each and every portion of bedding, carpet, furniture, and hangings could come into actual contact with a solution sufficiently strong to destroy the disease germs. That is impracticable.

* "Objectional Features of Certain Methods of Prophylaxis against Puerperal Fever," by Simon Baruch, M. D., "Medical Record," February 16, 1884.

In the event of exanthematous disease having prevailed in the house, fumigation with sulphur should be resorted to.

When labor is impending, the woman should take a hot bath, and cleanse herself thoroughly, especially the external genital organs. The bedding may now be managed in the usual manner, viz., by protecting the lower, clean portion with a rubber sheet inserted under the upper sheets upon which the parturient is to lie. If labor be protracted, one or two warm vaginal injections, and an occasional bathing of the external parts with a solution of bichloride of mercury, six or eight grains to the quart, will afford an ample antiseptic purification. Examinations by the touch should be made rarely, and always only after thorough scrubbing of the hands with a nail-brush, soap, and hot water. To prevent contact of the accoucheur's clothing with the genital parts or the thighs of the parturient, a clean towel should be tightly wrapped around the arm of the examining hand, and pinned around the wrist. This may be removed from time to time when it becomes soiled. The use of carbolyzed oil is one of the absurdities of antiseptic practice. It is well known that the regular oleaginous solution of carbolic acid does not possess germicidal properties. Sali-cylated vaseline would be more in accordance with scientific ideas. But strict cleanliness and, if need be, the bathing of the hands in a solution of bichloride of mercury, eight grains to the quart, will afford ample protection against the introduction of disease germs. The napkin which receives the vaginal secretions during labor should be renewed several times, and the bed kept as clean as possible. When the head appears at the perinæum, fecal matter, which often precedes or accompanies its appearance, should be removed at once. This will be accomplished readily if a napkin has been spread under the nates to receive it. Under these circumstances the external genitals should be bathed with a hot solution of corrosive sublimate.

After the birth of the child, the usual attention should be paid to the uterus. Although, according to some recent statistics, Credé's method has not succeeded so well in emptying the uterus completely as the expectant plan, I should be loath to give it up; but I would advise trusting to the natural powers of the post-partum uterus. In fact, Credé directs that the hand resting upon the uterine mass should await a contraction ere the effort be made to aid the expulsion of the placenta by properly applied pressure. It is the officious pressure of the hand upon the uterus which retards expulsion. The careful observance of Credé's direction will always be crowned with success. It is not necessary to mention that all clots should be removed from the utero-vaginal canal.

The patient should now be placed across the bed, opposite a good light, and an examination of the external genitals be made. If a rupture exceeding one quarter of an inch be present, it should at once be united. It is rarely necessary to introduce more than three sutures. I am in the habit of resorting to two or three sutures, as may be indicated by the extent of the rent. It is my practice to enter the suture (silver) about a quarter of an inch from the left edge of the laceration, pass it deep with a long, straight needle, bring it out at the upper portion of the rent, rein-

roduce it at this point into the opposite edge, and again bring it out a quarter of an inch to the right of the rent on the perineal surface. The sutures should be introduced precisely in the same manner as in the secondary operation, deep and thoroughly, and no sign of them should be visible in the vagina. Thus the puckered edge of the mucous lining of the vagina protects the wound against air and against the secretions, especially when, in a day or two, swelling aids this occlusion. The sutures are fastened by twisting them, not too tightly (making allowance for swelling, which in lacerated wounds is necessarily greater than in the incised wound of the secondary operation), and securing them by clamped shot. Although the latter produce small and deep abrasions, these heal in a few days after their removal. It is my practice, in every case of a primipara, to warn the friends of the patient that a ruptured perineum is unavoidable. I assure them that it is a common accident, to meet which I am prepared, and that they need not be alarmed if, after the labor, I proceed to stitch up the wound. I prepare the sutures, needle-holder, etc., in an adjoining room, put them on a tray, and, when the patient is brought forward to the light for examination, have them ready without her notice. She is informed that a thorough examination is necessary, and that it may be a little painful, but will be brief. Thus the suspicions of the attendants and friends are disarmed, their anxiety is allayed, and I am absolved from blame if a rupture occurs.

The introduction of the sutures requires but a few minutes, after a new and thoroughly antiseptic sponge (which is always found in baby's basket) has been introduced within the vagina, to dam up the flow. The passage of the sponge is the most painful part of the procedure. The bowels are kept open with the compound licorice powder, and the stitches are removed from the fifth to the seventh day. I regard this little operation as one of the most successful in surgery, and one which any physician need not hesitate to perform.

A hot vaginal injection should be given after each case of labor, consisting of plain water or, if the labor has been protracted or perineal suture has been performed, of a solution of corrosive sublimate—four to six grains to the quart of water. The woman should now be bandaged, the soiled bed-linen should be removed, after she has been cleansed as usual, and *now a strict abstention from all interference with the genital tract is to be observed.* The vulva must be cleansed as often as necessary, so that nothing shall remain adherent to the hairs; but no sponge should ever approach it. I regard it as important for the thorough drainage of the uterus and vagina to insist upon the patient's using, after the first day, a regular vessel, and not the bed-pan, if her strength permits it. By this means all coagula and retained lochia are removed. If the lochia at any time become offensive, or are too abundant, or if the temperature rises above 102° F., without assignable cause, a vaginal injection of sublimate solution (six grains to the quart) should be carefully administered with a clean fountain-syringe. This is to be repeated as often as may be necessary. If the temperature should rise, a warm uterine irrigation with the same solution is in order. After the irrigation, a pencil of iodoform, ninety to one hun-

dred grains, and fifteen grains each of starch, glycerin, and gum arabic, should be introduced within the uterus. This method renders the utero-vaginal tract completely aseptic for several days, and enables the physician to dispense with frequent intra-uterine injections, which are fraught with danger. Should, however, the temperature not fall, another vaginal injection may be administered and followed by an intra-uterine irrigation with a solution of corrosive sublimate, six grains to the quart of warm water. The phenomenal success of Ehrendorfer's practice, as detailed in the "Archiv für Gynäkologie," Bd. xxii, Heft 1, is an ample guarantee of the safety and reliability of this method of antiseptics in puerperal fevers.

In the event of an artificial labor, or a hæmorrhage, a much more scrupulous antiseptics is called for. Immediately after the termination of such labors, or when placental *débris* are retained, an intra-uterine irrigation (not injection) of the sublimate solution should be resorted to, two quarts being used, and an iodoform suppository must be inserted into the uterus. The same punctilious cleanliness being observed in the management of the bedding, removal of soiled linen, etc., an antiseptic cleansing of the external parts must be executed with a mass of clean lint or absorbent cotton, sponges being avoided. The solution of sublimate used for this purpose should be of the strength of twelve grains to the quart. Now an antiseptic napkin of "lint or Canton flannel (new), eight inches long, and wrung out of this solution, should be placed over the vulva and anus, folded so as to form four layers three inches wide, outside of which is placed a piece of oiled silk an inch longer and broader, and upon this a large pad of carbolized cotton; all are fastened to the binder" (Garrigues). If no fetor or other abnormal condition of the lochia is perceptible, and no fever arises, the genital parts are only to be bathed twice a day with the antiseptic solution, the dressing being renewed each time. No interference with the utero-vaginal tract is permissible unless abnormal symptoms arise. In these cases the first appearance of a chill or fever, which can not be accounted for except as arising from infection, should be the signal for antiseptic irrigations—vaginal at first, intra-uterine if necessary. The plan above briefly delineated should be followed in the event of fever. In placenta prævia, in transverse presentations requiring the introduction of the fingers or hand, vaginal antiseptic injections *during* labor are imperatively demanded. In these and other operative cases the value of strict antiseptics and cleanliness can not be over-estimated, because the reduction of mortality by these measures is one of the greatest triumphs of modern obstetrics. The subsequent management of such cases has been referred to above.

This brief sketch of antiseptic midwifery presents a happy mean between extreme measures, on the one hand, and the purely expectant plan, on the other. It is simple and concise, and has the support of the experience of Breisky and Tarnier, the most successful obstetricians of modern or ancient times. Both of these observers warn against the danger of doing too much, which I have endeavored to emphasize in all my papers and utterances upon the subject.

TONSILLITIS.*

BY T. A. DE BLOIS, M.D.,

LARYNGOLOGIST TO THE BOSTON DISPENSARY; ASSISTANT PHYSICIAN TO THE DEPARTMENT FOR DISEASES OF THE THROAT AND NOSE, BOSTON CITY HOSPITAL.

IN bringing up again this, to say the least, "considerably discussed" subject, it is not with the belief that I have anything original to offer in either pathology, diagnosis, or treatment, but, as I have had the fortune, good or otherwise, to have been thrown almost daily with these cases, it appears to me that, by classing the results of a few years' treatment, an idea of its advisability might be gained.

I might, in order to illustrate the frequency of tonsillitis, in comparison with other affections coming to a special dispensary clinic, state that from the 1st of June, 1880, until the 1st of April, 1883—a space of nearly or during three years of almost daily treatment of diseases of the throat and nose at the Boston Dispensary—I saw 222 cases of tonsillitis in comparison with 2,008 cases, total of all kinds; in other words, eleven per cent. of the whole number of cases. As regards the distribution of these cases throughout the year, taking the year commencing April 1, 1882, to March 31, 1883, as a criterion, there were 819 cases, 110 being of tonsillitis, or 12½ per cent. In April, 77 total, 8 per cent. cases of tonsillitis. May, 63 cases, of which 8 per cent. were tonsillitis. June, 49 total cases, with 2 per cent. of tonsillitis. July, 60, with 20 per cent. of tonsillitis. August, 64, with 12 per cent. of tonsillitis. September, 54, with 9 per cent. of tonsillitis. October, 45, with 9 per cent. of tonsillitis. November, 44, with 20 per cent. December, 24 per cent. January, 26 per cent. February, 18 per cent. March, 7 per cent.

I regret that there has been no means of considering the different states of the weather as being a factor in the causation of tonsillitis; but, from careful observation, it appears to me that a season of damp weather, although warm, is more apt to be the time when we see more of tonsillitis than a season of dryer and colder weather. As regards the causation of this affection, it is extremely difficult, in so many cases that we see once and often not afterward, to say what has led to it.

The theory of a life in a vitiated and effete atmosphere, the presence of decaying animal substances in dissecting-rooms, etc., has been sufficiently written about to be familiar to every one; they may or may not be factors in its production, but certainly the larger part of the tonsillitis patients that we see are not exposed to these conditions, and are so much of their time exposed to the severities of a changeable climate that it would seem as if we ought to look more at the out-door than the in-door surroundings for at least the exciting causes. A low condition of the system, I think, without doubt, shows itself as predisposing the patient to this local glandular affection, just as it might to a series of furuncles, an abscess, or other local lesion of the kind.

We come next to the point of to what class of diseases

tonsillitis belongs. I have always held the opinion, although at variance with that of the majority of authorities, that tonsillitis was not a constitutional disease. I have never seen anything to cause me to change my opinion. I believe the lesion to be entirely a local one, and I think the febrile and other symptoms are as easily accounted for on that ground as those occurring in acute coryza, burns, and other undoubtedly local affections. As to the course of the disease, I can speak with much less self-assertion. I am perfectly honest in my statement that the more I see of it the less I think I know about it. Certainly I never should think of dividing it into classes—as, for instance, a class that "walks" and a class that "stays at home." You may see a patient one day able to walk, and the next day, if you let him alone, he will not be able to walk; and others, if you let them alone, will be better than the day before. So also, as regards the abscess of the tonsil, or around the tonsil, some cases of tonsillitis go on to suppuration in spite of whatever you may do to the contrary; and others, that appear as if they were about to form an abscess, and which will last with great swelling and pain for two weeks and over, will then subside without your being able to find a drop of pus. So, would it not be wiser, or at least more honest, to say that local inflammations of the tonsils differ from each other in degree rather than in kind, and that, when a gland has suppurated, then we know it, and we did not know it before?

Now, I have said that tonsillitis in different cases differs in degree and also in appearances—probably caused by the original size and shape of the tonsil. There are some that appear to be entirely covered in by the reflection of the anterior pillar of the fauces, and then the swelling seems to be rather above and back of them; then, although the pain may be as great, breathing and deglutition will not be so much interfered with. Then there are other cases starting in a tonsil originally large, where the inflammation does not seem to greatly involve the soft palate, but the tumor will be lower; it will be more evident that it is in the gland itself, and there will be more follicular secretion on its surface. But it is the same tonsillitis.

As to diagnosis, it would be better to say differentiation, for, if you can exclude the exanthemata, some of the manifestations of syphilis, and, above all, the local symptoms of diphtheria, you would probably have tonsillitis left. And then there comes the point as to whether tonsillitis ever turns to diphtheria, and the converse. I believe tonsillitis and the local manifestations of diphtheria to be as distinct as I believe the local venereal sore and the primary lesion of syphilis to be, although there are many to whom this simile has no significance, but it is with great difficulty that they are invariably recognized; but when we think we have a case of tonsillitis, and suddenly find a bit of membrane in the larynx or posterior nares, it is much pleasanter to think that one disease runs into the other than to allow that there has been an unfortunate error in diagnosis.

Now, there is, besides these, a pharyngitis or tonsillitis without exudation, only erythema, which we sometimes find in the same house and generally in the same family, and sometimes synchronous with a case of diphtheria. What is

* Read at the Section of Clinical Medicine of the Suffolk District, Mass., Medical Society, March 12, 1884.

this? Is it a lesser form of the same constitutional poisoning, or is it to be classed among the cases of idiopathic tonsillitis? Dr. Mackenzie, from his vast experience, speaks of a form of diphtheria without exudation, and, as the membrane is only a local symptom of diphtheria, why may not some of the symptoms be found wanting in that as in other diseases?

About a year ago I was called to see a woman with throat symptoms. Upon examination, both tonsils and the velum were greatly swollen and of a dark-red color; both tonsils pretty well covered with a white exudation, which I was able to wipe off, leaving white points, through the middle of which the probe passed into the dilated mouths of the follicles; found nothing white in either posterior nares or larynx; the glands of the neck were greatly swollen; temperature 103°. No other symptoms. I believed I had a case of double tonsillitis, and told the friends so; treated with Dover's powder, etc. The next day the tonsils were about the same, but the nostrils contained a whitish matter, watery mucus issuing from them; felt pretty sure then I had a case of diphtheria; and had to hedge a good deal with the inquiring friends. The third day the tonsils were not so bad; the nose was about the same, but externally there was a broad red flush over the bridge of the nose; there was no mistaking it. I couldn't hedge any more; it was one of those rare and severe cases of erysipelas commencing first in the fauces. So I told the family how much I had been mistaken, and the next day another physician was called. I could only console myself by thinking that the treatment had been all right, no matter how it turned out.

Fortunately, there are not many such puzzling cases, and the little point given by Dr. Jacobi—that the small white spots in tonsillitis always cover the orifice of a follicle, whereas in diphtheria they do not necessarily do so—shows us very well in most doubtful cases. The temperature, and the swelling or other condition of the glands of the neck, are of no use whatever; you may or you may not find them in either diphtheria or tonsillitis, and so it is in most of the other points of difference; they answer well enough for one, and they hold good for the other also.

The prognosis, I suppose, is always good, although the duration of the disease is so very uncertain; they certainly almost always get well. The cases where an abscess has formed and bursts during sleep, strangling the patient, are, of course, well known to every one. There are cases where attacks of tonsillitis rapidly succeed each other, and where the tonsils do not go back to their normal state, gradually becoming hypertrophied together with a much congested condition. This state ought to be taken into consideration when speaking of the invariably favorable prognosis in tonsillitis.

The treatment of tonsillitis is, perhaps, the hardest part of the subject to touch upon. Everybody who gets a case of tonsillitis treats it, and there are, generally speaking, as many modes of treatment as there are physicians who treat it. Like oysters, the tonsils are boiled, steamed, or frozen, according as the medical attendant may fancy the hot gargle, hot spray, or ice treatment. Nothing can be said against these; it is all done with the one object in view of

relieving the symptoms, and, of necessity, the treatment employed exemplifies the past experience and best judgment of the practitioner; what right has one to criticise the judgment any more than the taste of another?

The treatment which I have employed from time to time during the past few years in tonsillitis has most certainly been modified by my daily experience, but, although it has not always been what would please the most fastidious taste, still I have never hesitated to employ it in my own case when I thought I required it, and I can not say that I think I suffered greatly from the treatment. My first efforts were with astringents and escharotics. I used a good deal of iodine and nitrate of silver, and I do not believe that I got brilliant results; it would be absurd to say that I should have done better had I employed some other line of treatment, for that would be only conjecture. I combined this with the constitutional exhibition of iron and quinine, which seemed to have some good effect on the general malaise, not to speak of the slight local astringent effect. I never knew of any very protracted cases; I do not believe I shortened the course much—do not think I lengthened it.

Observing the tension of the parts during the first few days of some cases of tonsillitis, and believing, in many of these, the almost tetanic closure of the jaws was due to this tension, above all, remembering the relief afforded by the early incision of a furuncle, I adopted the plan of scarifying the tonsils with many shallow punctures; by this some little local bleeding was produced, and in almost all cases alleviation of pain; the jaws in some cases could be separated half an inch to an inch farther immediately after the operation. As far as I could judge, this treatment, combined with the use of tonics, has shortened the course of the affection a day or so. It seemed satisfactory, and in some cases I have continued the same treatment ever since. Guaiacum, combined with chlorate of potash and currant paste, I have found invaluable in the form of troches, as they do not taste very badly. Within the past year I have adopted the use of the Dover's powder—ten grains the first night, five the second, and five the third night, to be in each case followed by a saline cathartic in the morning; it does not always produce perceptible diaphoresis, it seems to relieve as much when it does not as when it does.

This treatment, followed by tonics, I have found very good; it relieved some of the symptoms; it may have shortened the disease. I used this in ten out of eighty cases. On the whole, believe I have had better results than from scarification, and, of course, it is better where the tension is not very great. Some years ago, having tonsillitis myself, I wanted to try the aconite treatment. I had no aconite at hand, but had some $\frac{1}{10}$ gr. aconitine pills, which it seemed to me ought to do about as well. I used them often enough to produce severe toxic symptoms, but did not get the least relief to the tonsillitis. I have lately seen the aconite treatment in two cases; one was relieved and the other was not.

My principal objection to the use of aconite in dispensary practice is the great stupidity of the patients. It is a frequent occurrence, when prescribing for pharyngitis a gargle and a tonic, to have the patient return and acknowledge that he has swallowed the gargle and gargled with the

tonic; now, under such conditions should we be justified in trusting such people with the use of so dangerous a remedy as aconite, which is generally prescribed by the drop? Hot water I have never used, except in catarrh and coryza, as an injection into the nose. I did not find it of much effect in these instances.

In conclusion, I can make these few deductions from my experience alone, and I only refer to my own experience. For a self-limited disease it is somewhat uncertain as to this limit; its diagnosis is generally very easy, but there are good opportunities for mistakes in some cases.

Different forms of treatment have had such different results in physicians' hands that it is wiser to make no suggestions, but leave each one to follow out his idea, or the result of his own experience.

CASES COMING UNDER THE THROAT DEPARTMENT, BOSTON DISPENSARY,
FROM JUNE 1, 1880, TO APRIL 1, 1883—TOTAL, 2,008 CASES.

Tonsillitis.....	222 = 11 per cent.
Nasal Catarrh.....	627 = 31½ " "
Pharyngitis (Idiopathic).....	297 = 15 " "
Pharyngitis and Tonsillitis (Syphilitic).....	83 = 4 " "
Laryngitis (Idiopathic).....	384 = 19 " "
Laryngitis (Syphilitic).....	44 = 2 " "
Edema of the Larynx.....	9 = ½ of 1 per cent.
Diphtheria.....	27 = 1½ per cent.
Tubercular Laryngitis and Phthisical Laryngitis.....	18 = 1 " "
Foreign Bodies in the Air Passages.....	9 = ½ of 1 per cent.
Mucous Polypi of the nose.....	10 = " "
Bronchocele.....	8 = " "
Paralysis of the Vocal Cords.....	7 = 3½ per mille.
Carcinoma of the Tongue.....	3 = 1½ " "

91 per cent.—the rest
being made up of
wounds, epistaxis, pa-
pillomata, etc.

Clinical Reports.

CASES IN PRIVATE PRACTICE.

By J. FOSTER BUSH, M. D. (HARV.),
BOSTON.

Pleurisy in an Infant.—Rupture of the Membranes; Prolapse of the Funis; Miscarriage.

CASE I.—E. A., a female baby, aged six weeks, was noticed on May 20th to cry a great deal and refuse its food. The cry was peculiar, having a sharp, short sound, very different from the fretting of babies. The nurse noticed a slight cough, and, upon taking up the child, found that the extremities were cold and livid. Heaters were applied to the feet and the body, and a small quantity of brandy in hot water was administered. Soon reaction set in, and the child became hot and restless. It took milk eagerly, but vomited it directly. There was constipation.

On the 21st the child had been restless all night; the cough was short and hard, which caused pain and produced crying. The pulse was rapid; the respiration was 92, short, quick, and labored. Upon making an examination of the chest, the right side was found full, but it did not expand so much as the left; there was flatness upon percussion, and the respiratory murmur

of that side was heard only over the upper part of the chest in front, and there faintly. The child nursed easily, but not much at a time, jerking the head away and breathing hurriedly.

On the 24th the respiration was easy, the temperature was lower, and the dullness was subsiding. There were several loose dejections. On the 26th the percussion sound was more resonant, and the respiratory murmur was audible.

June 1st it continued to gain, and respiration was distinct. Toward evening, however, the respiration began to quicken, the skin became hot and dry, and on June 3d an effusion was discovered in the opposite side of the chest. This ran about the same course as the other, except that the respiratory sounds were feeble for some time, and a hacking cough lasted for a while.

The treatment consisted in keeping the child warm by heaters applied to the feet and body—bottles filled with hot water being used—whenever coldness was perceived. A jacket poultice of flaxseed meal was employed from the first, and, upon its discontinuance, cotton wadding was used to maintain warmth. Besides the breast-milk, beef-tea was occasionally given. Brandy was given in infinitesimal doses, but was invariably rejected by the stomach.

I was not inclined to believe the evidence, as the disease is seldom seen at this early age without some constitutional taint; therefore I requested Dr. H. H. A. Beach to see the child with me, which he did on more than one occasion, and he fully agreed with me in the diagnosis and treatment. According to the standard authorities, it is exceptional for idiopathic pleurisy to occur in a child under five years of age, and, under such circumstances, the effusion is apt to become purulent.

CASE II.—February 18th I was called to see Mrs. W., aged thirty-three. Her statement to me was that she was six months pregnant; that during this period she had been feeling well till within a week, since which time she had been troubled with "the whites" so badly that she had been obliged to wear a napkin, and that the discharge was thin like water. She had experienced no pain, but had flowed a little during the night previous to my visit, having noticed bloody stains on the bed-clothing. In the morning, upon getting up, she felt something peculiar keep hitting her leg, and did not know what to make of it. She had had one miscarriage, but had never had a child at term.

Upon inspection, I found protruding from the vulva a loop of the umbilical cord about eight inches in length. This was pulsating. Upon making a vaginal exploration, I found that the os uteri grasped the funis firmly, and I could not introduce my finger through the os without using more force than I thought was justifiable. I put the patient to bed, and gave an opium pill, directing a second dose to be given if pain required it.

The next morning Dr. W. L. Richardson saw the patient in consultation. There had been pain during the night. Upon inspection, it was found that sloughing of the cord at the turn of the loop had taken place, and pulsation consequently had ceased. Upon making a vaginal examination, the os was found to be dilating and a foot was presenting.

Later in the day, pains having been moderate, the os was opened by manual dilatation, the other foot seized, and delivery accomplished. After delivery there was free hemorrhage, a portion of the placenta being detached and part adherent. The hand was passed into the uterus and the placenta was forcibly detached and removed. Stimulants and the fluid extract of ergot were administered, and a carbolyzed hot-water intra-uterine injection was given, contraction of the uterus following. Convalescence was slow on account of the quantity of blood lost, but was not retarded by any unusual symptoms.

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THE MARINE-HOSPITAL SERVICE AND THE NATIONAL
BOARD OF HEALTH.

WHILE it is to be regretted that any clashing should have arisen between the working of the National Board of Health and that of the Marine-Hospital Service, the enormous interests at stake forbid the medical profession, represented as it is in both bodies, and liable to be judged of by the doings of either, to content itself with deprecating the situation of things; it is incumbent on us to look into the merits of the case. We would therefore commend to our readers two publications recently issued by the Treasury Department: the "Report to the Secretary of the Treasury on the Administration of the National Quarantine Service and the Epidemic Fund" (dated February 23, 1884), and the "Answer to the Supervising Surgeon-General to the National Board of Health" (dated March 12, 1884). These pamphlets contain the proceedings of two meetings of the House Committee on Public Health, and embody Surgeon-General Hamilton's defense of the course pursued by the Marine-Hospital Service in administering the epidemic service, and especially of its attitude toward the National Board of Health, both of which had been called in question before the committee.

The hearings before the committee are but the culmination of a contest that has long smoldered. So far as our observation has enabled us to form a judgment, it has been conducted more creditably by Dr. Hamilton than by his antagonists. The Marine-Hospital Service has undeniably done good work in the field opened to it by the action of Congress in charging it with the management of the epidemic fund, and we are unable to see that it has gone out of its way to try to undermine the efficiency of other branches of the sanitary service, or to detract from any credit that the nation may be disposed to award them. On the other hand, there seem to have been indications that the National Board of Health was endeavoring to bolster up its waning influence by pointing to the laudatory resolutions passed by medical societies on various occasions. When we reflect how easily the passage of such resolutions can be secured as a general thing, and how seldom they represent any firm conviction on the part even of those who vote for them, we can only conclude, without at all adopting the suggestion that their passage was the direct result of improper influences brought to bear by the board, that the board virtually confesses its weak position by parading them as evidence of its standing in the medical profession.

The general showing made by Dr. Hamilton before the committee is so creditable to the efficiency of the service of which he is the head that it seems to us to be regretted that petty matters were allowed to figure in the inquiry, and that personal

allusions are so common in the reports of what was said on either side. Even this aspect of the dispute, however, shows much less to the discredit of the Marine-Hospital Service than to that of the representatives of the National Board of Health.

SKILLED TESTIMONY IN INSANITY CASES.

THERE is room for some speculation as to the probable working of a bill that has been prepared by a committee of the Medico-Legal Society, the professed object of which is to do away with certain of the abuses that take place so often in connection with judicial inquiries turning upon the question of insanity, as well as to develop a little popular respect for "expert testimony." It is provided in the bill that, in each judicial department of the State, a body of medical "experts" in psychiatry shall be appointed, and that any litigant desiring testimony on the subject shall apply to the court, which shall determine the number of such witnesses to be called, their names, and their fees. These witnesses having been selected, it is provided that "no other mental experts [*sic*] shall be examined upon such trial."

It seems to us that this latter clause is likely to work great hardship if it is interpreted as covering the attending physician, who may be called to testify as a skilled witness as well as upon matters of fact. Such a physician would have opportunities, in many cases, for forming an opinion sufficiently trustworthy to outweigh the opinions of any number of men who, whatever their knowledge of the general subject, were restricted to answering hypothetical questions, without ever having seen the person whose mental condition was the subject of inquiry. Unless the attending physician is allowed to testify as to matters of opinion, the law not only seems likely to cause injustice, but will probably fail to work satisfactorily—indeed, it may be questioned whether it would not be unconstitutional.

Another section of the bill requires hypothetical questions to be reduced to writing, and allowed by either the adverse party or the judge, before they can be propounded to the witness. To this provision we see no objection in the interest of justice, and it may work well in preventing waste of time in propounding and answering questions which might at the last be held not to cover the case.

A CRUSADE AGAINST OPIUM.

THE evils of the opium habit, or at least its prevalence, may have been overdrawn of late, but certainly there is ground enough for apprehension that the vice will grow rapidly to such proportions as seriously to threaten the well-being of a considerable section of our people. It seems to us, however, that, if legislation is to be called upon to interfere, some less radical measure might be made to serve than the virtual prohibition contemplated in a bill recently introduced into the Lower House of Congress by a representative from California. According to this bill, the importation of the drug, save in the form of aqueous extracts or tincture, is made an offense punishable by a fine of \$5,000 and imprisonment for a term not

exceeding five years. In the interests of medicine and pharmacy, crude opium must be had, but it might be found practicable to guard by legal enactment against its indiscriminate sale. One argument urged in favor of the bill is the assumption that its enforcement would have the effect of diminishing the Chinese population of the country—whether by discouraging immigration or by leading to that mortality which the bill asserts always takes place among the victims of the opium habit when they can not procure the drug, we are not told. For the sake of our civilization, it is to be hoped that the bill covers no political scheme founded on the latter notion.

MINOR PARAGRAPHS.

PRELIMINARY EDUCATION IN OHIO.

We have received a copy of a set of resolutions lately adopted by the Trumbull County Medical Society, recommending the State society to move in the matter of securing provision for requiring a definite standard of educational attainments on the part of medical students as a preliminary to their entering upon the study of medicine. The resolutions embody a schedule of requirements that is certainly to be commended, embracing a written essay, writing from dictation, and examinations in spelling, reading, geography, political economy, ancient and modern history, geology, botany, chemistry, natural philosophy, arithmetic, algebra, geometry, English grammar, and in a very fair elective list of Latin, Greek, French, and German text-books. It is to be hoped that the State society will sanction the scheme, and that its indorsement will meet with favor in the Legislature.

A CONSPIRACY OF DRUGGISTS IN MASSACHUSETTS.

CERTAIN Massachusetts druggists, whose nefarious trade in drugs not up to the legal standard in strength or purity was lately checked for the time being by the energetic action of the State board of health, are conspiring to get the better of the law, and of the community, by securing such modifications of the present laws relating to the matter as will enable them to ply their fraudulent business without let or hindrance. In support of their scheme they have the assurance to allege the fact that a very large proportion of the stock of drugs now on hand in the State could not stand the legal tests, which is tantamount to saying that, because a great many offenses have been committed against a certain law, therefore the law ought to be abrogated. It is to be hoped that the legislators of Massachusetts will not allow themselves to be deceived by any such specious reasoning as this.

THE HEALTH OF CONNECTICUT.

We learn by the last monthly statement of the secretary of the State Board of Health, Dr. C. W. Chamberlain, covering the month of January, 1884, that, with the exception of Hartford, the State has been more than ordinarily healthy. The "winter cholera" of last year does not seem to have made its appearance again, although it is spoken of as having prevailed early in the season in the neighboring State of Rhode Island. As compared with malarial diseases, typhoid fever was the more prevalent of the two. Scarlet fever was more prevalent than during the preceding month, but only six cases of diphtheria were reported. Diseases of the nervous system and erysipelas are said to have been unusually frequent. Pulmonary affections

also figure largely in the report, and the secretary gives it as his opinion that this will continue to be the case until well into the spring.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 18, 1884:

DISEASES.	Week ending Mar. 11.		Week ending Mar. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	9	2
Typhoid Fever	11	6	10	4
Scarlet Fever	69	8	112	19
Cerebro-spinal meningitis	5	7	4	4
Measles	44	5	62	9
Diphtheria	44	21	62	15

AN INCREASE OF SCARLET FEVER IN NEW YORK.—It will be noticed from the tabular report of infectious diseases in New York, given in this issue of the journal, that there was an increase in the number of scarlet-fever cases reported for the week ending last Tuesday that is quite striking. The number of cases was one hundred and twelve, against sixty-nine for the preceding week, with almost a proportionate increase in the number of deaths from the disease—nineteen for the week against eight for the week before. In comparison, there was a still greater increase in the prevalence of typhus, although the figures are small.

THE FOOT-AND-MOUTH DISEASE has been reported during the past week to be raging in certain parts of Illinois, Missouri, and Kansas, and destruction of the affected cattle, with quarantine measures, has been resorted to with varying degrees of rigor. Doubt seems to be entertained, however, at the East as to the accuracy of the reports, and it is said that no private advices have been received confirmatory of the statements given in the newspapers. A joint resolution has been introduced into Congress appropriating \$25,000 to be expended, under the direction of the Commissioner of Agriculture, in the suppression of the disease in Kansas.

"PINK-EYE."—This disease is said to be prevailing among the horses of Albany and Rensselaer counties, in this State.

TRICHINIASIS.—The Senate Committee on Foreign Relations, if we may judge from a bill it has reported to the Senate, is content to rely on thorough salting as a safeguard against injury from the use of trichinous pork, sufficient time being allowed to elapse to insure the permeation of the meat by the salt.

THE BOSTON MORTALITY FOR THE MONTH OF FEBRUARY is reported to have been seventy-one in excess of that for the same month last year, the estimated rate being 20.9 per mille. One hundred and thirty-one deaths were attributed to zymotic diseases.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—The twenty-third annual commencement was held on Thursday of last week, in Steinway Hall. The graduating class numbered one hundred and forty-nine. The honor-men were as follows: Reginald H. Sayre, of New York; Nathan S. Jarvis, of New York; Lewis R. Morris, of New York; Alanden C. Bridges, of Indiana; Howard H. Young, of New York; and Sigmar Stark, of Ohio.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—Dr. Edward Kershner, of the navy, has been appointed professor of naval, military, and State hygiene, permission having been

granted by the Navy Department; Dr. G. F. Whiting has been elected professor of laryngology; and Dr. W. D. McKim has been made professor of operative surgery.

THE WOMAN'S MEDICAL COLLEGE, OF PHILADELPHIA, held its annual commencement on Thursday of last week, and degrees were conferred on a class of twenty-six, including one lady from Burmah.

THE COLLEGE OF PHARMACY OF THE CITY OF NEW YORK held its fifty-fourth annual commencement on Tuesday, the 18th inst., and the degree of Ph. G. was conferred on seventy-four gentlemen.

THE PARIS FACULTY OF MEDICINE.—We learn from the "Progrès médical" that M. Vulpian, professor of experimental pathology, has been given leave of absence for the second semester of the current year, during which time his place will be taken by M. Hallopeau.

WATER GAS is reported by the State Board of Health not to be more detrimental to health than any other illuminating gas.

OLEOMARGARINE is undergoing an investigation by the Committee on Public Health of the State Senate, with reference to its wholesomeness as an article of food. According to some of the witnesses examined, it is a decided improvement on butter made from cream, but it is a significant fact that, so far as we have noticed, there has been no positive testimony to the effect that it can compete with the latter in the open market.

THE STEAMSHIP MEDICAL SERVICE.—Dr. Irwin having lately renewed his criticisms of the Transatlantic steamship companies in the matter of the medical service on shipboard, the companies reply that they hear no complaints relating to its efficiency, but they are careful not to enter into the matter of the accommodations they give their surgeons, a main feature in Dr. Irwin's criticisms.

HOSPITAL SATURDAY AND SUNDAY IN BROOKLYN.—It is announced that the collections amounted to \$5,649.98, yielding a net of \$3,588.81, which is to be divided so as to give the Woman's Hospital \$83.70, the Long Island College Hospital \$444.00, the Eastern District Hospital \$61.23, the Homeopathic Hospital \$644.64, St. John's Hospital \$527.32, the Brooklyn Maternity \$506.42, the Brooklyn City Hospital \$825.47, and the Home for Consumptives \$496.03.

"TRAUMATIC APOPLEXY" is the euphemism under which a coroner's jury has expressed its opinion as to the death of a student in Yale College who died shortly after having been knocked down in a sparring contest with one of his fellow-students.

"ROUGH ON RATS," an arsenical proprietary preparation concerning the indiscriminate and reckless sale of which we have heretofore spoken in terms of deprecation, is reported to have given rise to the poisoning of a family in New Jersey during the past week. There is a suspicion that the poison was administered maliciously, and it is admitted that the suspected person found no difficulty in buying the preparation.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 9, 1884, to March 15, 1884:*

BILLINGS, JOHN S., Major and Surgeon. Granted leave of absence for one month, with permission to go beyond sea, to take effect April 1, 1884. Par. 6, S. O. 61, A. G. O., March 13, 1884.

HEIZMANN, CHARLES L., Captain and Assistant Surgeon.

Leave of absence extended three months. Par. 9, S. O. 57, A. G. O., March 8, 1884.

KNEEDLER, WILLIAM H., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Fort A. Lincoln, D. T. Par. 3, S. O. 26, Headquarters Department of Dakota, March 8, 1884.

WALES, PHILIP G., appointed to be Assistant Surgeon with the rank of First Lieutenant, to date from February 7, 1884, vice Brewster, resigned. Mem., A. G. O., March 10, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending March 15, 1884:*

TERRILL, F. H., Passed Assistant Surgeon. Ordered to Coast Survey steamer Hassler.

MC CARTHY, R. H., Passed Assistant Surgeon. Relieved from the Coast Survey steamer Hassler, and waiting orders.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, March 24th:* Medical Society of the County of New York.

Tuesday, March 25th: New York Surgical Society (private); New York Dermatological Society (private); Jersey City Pathological Society; Medical Society of the County of Lewis, N. Y.

Wednesday, March 26th: New York Pathological Society; American Microscopical Society of the City of New York; Auburn (N. Y.) City Medical Association.

Thursday, March 27th: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association (private); Brooklyn Pathological Society.

Friday, March 28th: New York Clinical Society (private); New York Society of German Physicians (private); Yorkville Medical Association (private).

OBITUARY NOTES.

DR. LUNSFORD P. YANDELL, OF LOUISVILLE.—Lunsford Pitt Yandell, M. D., the son of a distinguished physician of the same name, died at his home in Louisville, Ky., on Wednesday, March 12th, in the forty-seventh year of his age. The cause of his death was an attack of angina pectoris, from which affection he is said to have suffered frequently. Dr. Yandell was a native of Tennessee, but for the greater part of his life he was a resident of Louisville, where he received both his general and his medical education. At the time of his death he was the professor of the theory and practice of medicine in the University of Louisville and the senior editor of the "Louisville Medical News." He was an eloquent teacher, a forcible writer, and in every way a man of weight in the profession and in the community.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 27, 1884.

JOHN A. WYETH, M. D., Chairman *pro tem*.

PRIMARY CANCER OF THE HEAD OF THE PANCREAS.—DR. GEORGE A. DIXON presented specimens showing cancer of the head of the pancreas, with secondary deposits in the liver. The patient, a man fifty-four years of age, single, a laborer, entered Charity Hospital November 27, 1883. His family history was good. In September he had strained himself across the abdomen in lifting. Two weeks later he was troubled with pain over the upper part of the abdomen, which was dull and increased by pressure. He vomited blood five weeks after the injury, but the quantity was not known. The pain slowly in-

creased in severity, and he said he had lost thirty pounds since the injury. He had been a moderate drinker, but denied having had syphilis. On admission, his skin and conjunctivæ were of a yellowish tinge, the mucous membranes were pale, and he was much emaciated. Examination revealed emphysema and bronchitis. The heart sounds were weak. There was marked tenderness over the liver, which was of normal size. The gall-bladder could not be felt. He failed rapidly, and the jaundice steadily increased. For two weeks preceding death there was frequent vomiting of a grayish fluid. The patient became delirious two days before death, which occurred January 12, 1884.

At the autopsy the lungs were found emphysematous, and there was cardiac hypertrophy with dilatation. The origin of the common bile-duct was three inches below the pylorus; just below this there was an irregularly shaped ulcerated surface, which involved the mucous membrane of the duodenum. Corresponding thereto there was a tumor, which occupied the position of the head of the pancreas. The latter structure had been invaded by a cancerous mass of the scirrhus variety. It surrounded the intestine, and measured about two inches and a quarter in thickness. The liver was normal in size, and contained a few small nodules, hard to the feel and scirrhus in character. The gall-bladder was enlarged, and the bile-ducts were pervious.

Dr. Dixon related the history of a case which he had seen in Bellevue Hospital while he was an interne there, in 1877—a case of cystic degeneration of the pancreas. The patient had been well up to August of that year, when he was seized with a very severe pain in the epigastric region, radiating toward the back and the right shoulder; there was vomiting, but no jaundice. He was able to resume his work the next day. In September he had a similar attack, but again was able to return to work; a third attack occurred one week later, which disabled him from work, and jaundice set in and increased, and measuring with constant nausea and frequent vomiting. In the epigastric and right hypochondriac regions there was a tumor, attached to and movable with the liver, tender on pressure, and measuring about four inches in its transverse diameter. This was aspirated, and four ounces of reddish-yellow serum were drawn off. The next day the tumor was smaller, but on the second day it was larger than before. There was constant vomiting. On December 17th the patient was suddenly seized with sharp pains, as in previous attacks, became unconscious, and died in the afternoon. The autopsy showed the gall-bladder full of bile, the ducts being pervious. A large cyst occupied the place of the head and part of the body of the pancreas. This cyst pressed upon the ductus choledochus communis, and occluded it.

Dr. Dixon made some remarks upon the literature of these subjects, and called attention to there having been, in the case of cancer, no tumor felt during life, although carefully searched for; and to the vomiting having occurred as a late symptom—whereas, in the case of cystic degeneration, a tumor was found on admission, and vomiting was a very early symptom. In both cases the jaundice was due to pressure on the common duct.

TUBERCLE OF THE TESTICLE.—The CHAIRMAN presented the left testicle removed from a man twenty-seven years of age, who gave a history of inflammation of this organ developing slowly for two years. There was no history of traumatism or of syphilis, but there was a family history of phthisis. There seemed to be a general broken-down condition of the testicle, with two or three points of ulceration; there was pus in the tunica vaginalis testis. The temperature was the varying temperature of phthisis. There was some dullness at the apex of one lung, to which, however, little importance was attached. From the physical signs, from the peculiar temperatures, and

from the family history, Dr. Wyeth made a diagnosis of tuberculosis testis. Knowing that the organ was ruined, and fearing general inoculation, he performed extirpation. It was his rule in performing the operation to transfix the cord well up near the external ring, lay the vas deferens aside, not tying it, and, if necessary, tie the artery of the vas deferens separately, to prevent hæmorrhage, and then tie the vessels and nerves all together with a strong double ligature. The patient made a good recovery.

Dr. F. N. ORRIS thought the case a perfectly clear one of tuberculosis testis, and that there was no doubt as to the propriety of the operation. He had seen a number of cases of tuberculosis of the testis develop apparently in consequence of great irritation to the genito-urinary apparatus. One case which came to mind was presented to the society a number of years ago. The first evidence of trouble was frequent and painless micturition, which continued for a number of months, and finally cystitis developed. There was evidence of calculous material passing, but exploration failed to reveal stone in the bladder. About two years from the occurrence of the original difficulty the testicles began to swell, first one and then the other, and suppuration occurred at several points. It was the opinion of those who saw the patient that there was tuberculosis of the testes. The patient finally died of rupture of a spinal abscess, which had been recognized only a few months before. At the autopsy, tuberculosis of the testes and deposits of tubercular matter in the kidneys were found. There were no tubercular deposits elsewhere in the body. There was no family history of tuberculosis. Dr. ORRIS thought the genito-urinary trouble was due to irritation reflected back from irritation of some of the spinal nerves. There had previously been hip disease, from which the patient had recovered, but with some deformity.

Dr. J. H. RIPLEY thought the previous existence of hip disease showed a predisposition to tuberculosis, for frequently scrofulous manifestations healed in one part of the body and afterward broke out in other parts, while the former seat of trouble remained healthy. He thought the temperature mentioned by Dr. Wyeth as being present in his case, 103° F. in the afternoon, was high for uncomplicated tuberculosis of the testicle.

Dr. A. G. GERSTER had seen a number of cases of tuberculosis testis in which the temperature went even above 103°, as high as 105°. He thought, however, that so high a temperature did not occur unless there were complicating pulmonary trouble, or the deposits in the testicles were in the active breaking-down stage.

The CHAIRMAN thought an early operation was necessary in such cases, and that as much of the serotal tissue should be removed as could be spared, making sure that none of the affected tissue remained.

ANGIOMA OF THE LIP.—Dr. GERSTER presented the lower lip of a man, thirty-one years of age, who, thirteen years ago, was operated upon by Professor Koenig for an angioma of the lip of about the size of a hazel-nut. The cicatrix remained firm for ten years. The patient entered the German Hospital three years later, when a relapse of the old disease was found. Almost the whole of the lower lip was occupied by the growth. The specimen was of interest pathologically, as showing the possibility of a recurrence of this otherwise non-malignant disease after the lapse of ten years. The tumor belonged to the cavernous variety, and consisted of a stroma of connective tissue permeated by a large number of irregularly shaped veins.

The CHAIRMAN said this specimen was one of more than ordinary interest to him from the fact that lately he had done some operations for the removal of these angiomas which did not meet with the approval of surgeons of former years. He

had removed a number from different parts of the face, nose, and forehead, all being of the capillary variety, or a step between cirroid aneurysm and cavernous angioma. He removed the tumor almost entire by one sweep of the knife, cutting down to the bone. The cicatrix which remained after the operation was almost imperceptible.

MYO-FIBROMATA OF THE DUODENUM.—Dr. FRANK FERGUSON presented a tumor which was of interest on account of its situation. It was removed from the body of a middle-aged woman, grew externally from the duodenum, and consisted of a myo-fibroma. From the large number of blood-vessels which supplied it, one would suppose that, had the woman lived longer, it soon would have interfered with the function of the duodenum by pressure. This was the only case of fibroma which he had seen developed in this situation.

UTERINE FIBROMATA.—Dr. FERGUSON presented a second specimen, which was removed from the body of a woman who died at St. Luke's Hospital eight months ago. She had been in the hospital about eight weeks. She was about thirty years of age, and her menstruation was normal, having been interrupted by seven pregnancies, all of which went to natural term. About fifteen months prior to death she first noticed trouble in the pelvic organs. At that time she began to suffer from pain in the pelvic region, from backache, and from gastric disturbance. Afterward she felt a tumor in the right inguinal region, which grew slowly, and at the end of eight or nine months it was apparently as large as a goose's egg. Ascites then developed. After admission to the hospital she had hemorrhage for the first time, and it proved alarming. The operation for which she entered the hospital—removal of the uterus and its appendages—was postponed. Another hemorrhage occurred, and the patient died ten days later of exhaustion. At the autopsy the tumor was found to be subperitoneal and pedunculated, and larger than a goose's egg. The uterus was everywhere thickened, and the cavity had a depth of five inches and a half.

CARCINOMA OF THE STOMACH AND LIVER; HORSESHOE KIDNEY.—Dr. FERGUSON presented a third specimen, removed from the body of a man who was admitted to the hospital on the 4th of February of the present year. He had in former years suffered from two attacks of rheumatism. During two years previous to admission he suffered from "bilious" attacks, lasting from two hours to two days, and occurring at intervals of a month. They were characterized by vomiting, loss of appetite, pain, and diarrhoea. The vomited matter never contained blood. During the last four months the patient suffered from a feeling of distress about the stomach after eating, which was slightly relieved by vomiting. Vomiting, however, rarely took place. Five or six weeks before death he began to suffer from dull, aching pains in the calves of the legs, and three weeks later from slight but constant pain in the stomach, uninfluenced by eating. He lost flesh, and became pale and cachectic. On the 12th of February there was nausea, with vomiting of blood and bloody stools. There was a similar attack on the 17th. During the last hours of life there was severe pain in the epigastrium. He died apparently of heart failure. At the autopsy the cardiac end of the stomach was found nearly surrounded by a cancerous ulcer, and the adjoining mucous membrane was thickened; the liver was studded with numerous white nodules, surrounded by almost normal structure. Microscopical examination showed that in both the stomach and liver the diseased tissue presented large cuboidal epithelial cells arranged in a very fine stroma of fibrous tissue. The kidney was the so-called horseshoe kidney. It was the seat to a slight degree of chronic diffuse nephritis. It also contained cancerous nodules.

Dr. GERSTER said that some years ago Dr. Glück presented at another society a myo-fibroma of the duodenum which pro-

truded inwardly, ulcerated, and gave issue to a fatal hemorrhage through the mucous membrane into the duodenum.

Meeting of March 12, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

Dr. T. MITCHELL PRUDDEN presented a specimen of *HYDATIDS OF THE LIVER*, and Dr. R. W. AMIDON several of *NASAL POLYPI*, for candidates for membership.

Malformation of the Heart; Open Foramen Ovale and Ductus Arteriosus; Stenosis of the Aorta; Hypertrophy of both Ventricles.—Dr. L. EMMETT HOLT presented a specimen illustrating these conditions, taken from a child which died, at the age of four months, from capillary bronchitis of four days' duration. The heart weighed two ounces and a half, which was about three times the usual weight at that age. The walls of the right ventricle were about as thick as those of the left, and the latter were hypertrophied. The ductus arteriosus was pervious, its caliber being equal to that of the subclavian artery. On the cardiac side of this opening, and beyond the origin of the great vessels, the aorta showed a well-marked constriction, which must have diminished its lumen at least one third. The valves were all normal. There was no marked hypertrophy of the auricles, and no history of cyanosis. The opening of the foramen ovale admitted an ordinary lead-pencil easily, but was valvular in character, and probably did not allow any considerable commingling of the blood of the auricles. The hypertrophy of the left ventricle seemed plainly due to the contraction of the aorta. The cause of the hypertrophy of the right ventricle was not quite so clear, but it seemed to depend upon the same lesion. This obstruction existing at the time of birth, the right ventricle had continued to do after birth part of the work of the systemic circulation, supplementing the left ventricle. These results—open foramen ovale and ductus arteriosus, and hypertrophy of the right ventricle—were very common, depending upon pulmonary stenosis, and compensating for it. Dr. Holt had never met with the same condition as compensatory to aortic stenosis. A second point of interest was the absence of cyanosis. So far as it bore upon this subject at all, the case went to confirm the view that this symptom did not depend upon admixture of the arterial and venous blood. Considerable admixture certainly took place through the ductus arteriosus, possibly some through the foramen ovale. Dr. Holt thought it pretty well established that we were not to look for cyanosis in malformations of the heart unless marked pulmonary obstruction existed. Even this was sometimes compensated for, as above indicated, so that the symptom was wanting.

Dr. J. A. WYETH thought that, inasmuch as Dr. Holt had said the foramen ovale remained open, it was not perfectly clear that the hypertrophy of the right ventricle was altogether due to permanency of the ductus arteriosus and constriction of the aorta. Dr. Wyeth thought also that the condition must be a very rare one. With regard to the last remark made by Dr. Holt, he once presented a specimen, from a woman about forty years of age, in which the foramen ovale presented an opening that would admit his little finger, and yet there was a valve-like arrangement through which he thought blood could not have passed in any considerable amount.

TUMOR OF THE DURA MATER; BEING A CONTRIBUTION TO THE THEORY OF CEREBRAL LOCALIZATION.—Dr. G. L. PEABODY said he would present a brain with a tumor of the dura mater which was an interesting contribution of a negative kind to the doctrine of localization. The patient was seventy years of age, a native of the United States, a druggist, who was admitted to the New York Hospital, January 8th, at 7 p. m., in a comatose state, and the history had to be obtained from his friends. He

had always been a good liver, but was not a drunkard. There had been no seizures suggestive of epileptic or apoplectic attacks. The patient had been in good health, but of late had had trouble in business matters. Half an hour before admission he was seen to slip and fall when walking on the street. He got up almost immediately and walked into a bar-room, complaining of headache and vertigo. After fifteen minutes he became unconscious and passed into a comatose state. The reflexes were found almost completely abolished; there was no facial paralysis; the pupils were moderately dilated and irresponsive to light. A hæmatoma of the scalp existed over the left parietal region, but there was no apparent fracture. The respiration was stertorous; the pulse rapid and shallow; the temperature gradually rose, and before death went above 104° F. The patient died twelve hours after admission. At the autopsy there was marked œdema of the lower extremities. There was a hæmatoma in the left parietal region under the scalp, and one between the pia and dura beneath, causing flattening of the convolutions on the opposite side. In the superior parietal region, just posterior to the ascending parietal convolution, and a centimetre distant from the median fissure, on the left side, was a tumor, hemispherical in shape, 4.3 cm. in diameter, lying beneath the dura and over the pia, and causing cerebral depression. Microscopically, it was a spindle-celled sarcoma. There was also hypertrophy of the left ventricle of the heart, with chronic diffuse nephritis, and œdema and congestion of the lungs, and the liver was fatty and cirrhotic.

The PRESIDENT said it was to be presumed that the sarcomatous tumor had been of slow development, and perhaps the absence of symptoms might be accounted for by the fact that the brain had thus accommodated itself to pressure.

Dr. AMIDON remarked that it was extraordinary to what an extent the brain substance could be compressed by a growth or a foreign body coming from the periphery, without producing special symptoms, provided the pia mater and the cortex were not invaded or subjected to inflammatory action. He had once seen a case of pachymeningitis in which the motor area was compressed to the extent in the thickest portion of the exudation, of about 3 cm. The diameter of the area was from 12 to 15 cm. The patient presented no symptoms until just before death. He died in coma. There were no decided motor symptoms. He presumed that, if, in Dr. Peabody's case, an examination could have been made, no motor symptoms would have been found, but there would very likely have been a choked disc, probably on the same side with the lesion.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 6, 1884.

(Concluded from page 287.)

THE CLINICAL ASPECTS OF CEREBRAL SYPHILIS.—Dr. HORATIO C. WOOD concluded his paper as follows:

Epilepsy.—Epileptic attacks are a very common symptom of meningeal syphilis, and are of great diagnostic value. The occurrence in an adult of an epileptic attack, or of an apoplectic fit, or of a hemiplegia after a history of intense and protracted headache, should always excite grave suspicion.

Before I read Professor Fournier's work on "Nervous Syphilis," I taught that an epilepsy appearing after thirty years of age was very rarely, if ever, essential epilepsy, and, unless alcoholism, uræmic poison, or other adequate cause could be found, was, in nine cases out of ten, specific; and I therefore quote with satisfaction Professor Fournier's words: *L'épilepsie vraie ne fait jamais son premier début à l'âge adulte, à l'âge mûr. Si un homme adulte, au-dessus de 30, 35 à 40 ans, vient à être pris pour la première fois d'une crise épileptique, et cela dans la*

cours d'une bonne santé apparente, il y a, je vous le répète, huit ou neuf chances sur dix pour que cette épilepsie soit d'origine syphilitique.

Syphilitic epilepsy may occur either in the form of petit mal or of the haut mal, and in either case may take on the exact characters and sequence of phenomena which belong to the so-called idiopathic or essential epilepsy. The momentary loss of consciousness of petit mal will usually, however, be found to be associated with attacks in which, although voluntary power is suspended, memory recalls what has happened during the paroxysm—attacks, therefore, which simulate those of hysteria, and may lead to an error of diagnosis.

Even in the fully developed type of the convulsions the aura is only rarely present. Its absence is not, however, of diagnostic value, because it is frequently not present in true essential epilepsy, and it may be pronounced in specific disease. It is said that, when in an individual case the aura has once appeared, the same type or form of approach of the convulsion is thereafter rigidly adhered to. The aura is sometimes bizarre; a severe pain in the foot, a localized cramp, a peculiar sensation, indescribable and unreal in its feeling, may be the first warning of the attack.

In many, perhaps most cases of specific convulsions, instead of a paroxysm of essential epilepsy being closely simulated, the movements are in the onset, or, more rarely, throughout the paroxysm, unilateral; indeed, they may be confined to one extremity. This restriction of movement has been held to be almost characteristic of syphilitic epilepsy, but it is not so. Whatever diagnostic significance such restriction of the convulsion has is simply to indicate that the fit is due to a cortical organic lesion of some kind. Tumors, scleroses, and other organic lesions of the brain cortex are as prone to cause unilateral or monoplegic epilepsy when they are not specific as when they are due to syphilis.

Sometimes an epilepsy, dependent upon a specific lesion implicating the brain cortex, may be replaced by a spasm which is more or less local and is not attended with any loss of consciousness. Thus, a man, aged about thirty-five, now convalescent in the University Hospital, offered a history of repeated epileptic convulsions, but, at the time of his entrance into the hospital, instead of epileptic attacks, there was a painless tic. The spasms, which were clonic, and occurred very many times a day—sometimes every five minutes—were very violent, and mostly confined to the left facial nerve distribution. The trigeminal was never affected, but in the severer paroxysms the left hypoglossal and spinal accessory nerves were profoundly implicated in all of their branches. Once fatal asphyxia from recurrent laryngeal spasm of the glottis was apparently averted only by the free inhalation of the nitrite of amyl. The sole other symptom was headache, but the specific history was clear, and the effect of anti-syphilitic remedies rapid and pronounced.

Psychical Symptoms.—As already stated, apathy, somnolence, loss of memory, and general mental failure are the most frequent and characteristic mental symptoms of meningeal syphilis, but syphilis is able to produce almost any form of insanity, and therefore mania, melancholia, erotic mania, delirium of grandeur, etc., etc., may develop along with the ordinary manifestation of cerebral syphilis, or may come on during an attack which has hitherto produced only the usual symptoms. Without attempting any exhaustive citation of cases, the following may be added to:

Dr. A. Erlenmeyer reports ("Die Inetischen Psychosen") a case in which an attack of violent headache and vomiting was followed by paralysis of the right arm and paresis of the left leg with some mental depression; a little later the patient suddenly became very cheerful, and shortly afterward manifested

very distinctly delirium of grandeur with failure of memory. Dr. Batty Tuke reports ("Jour. of Ment. Sci.," January, 1874, p. 560) a case in which, with aphasia, muscular wasting, strabismus, and various palsies, there were delusions and hallucinations.

In the same journal, April, 1869, Dr. S. D. Williams reports a case in which there were paroxysmal violent attacks of frontal headache. The woman was very dirty in her habits, only ate when fed, and existed in a state of hypochondriacal melancholy.

M. Leiderdorf details a case with headache, partial hemiplegia, great psychical disturbance, irritability, change of character, marked delirium of grandeur, epileptic attacks, and finally dementia, eventually cured with iodide of potassium ("Medizin. Jahrbücher," xx, 1864, p. 114). Several cases illustrating different forms of insanity are reported by Dr. N. Manssurow ("Die tertiäre Syphilis," Wien, 1877).

That the attacks of syphilitic insanity, like the palsies of syphilis, may at times be temporary and fugitive, is shown by a curious case reported by Dr. H. Hayes Newington ("Jour. of Ment. Sci.," London, xix, 555), in which, along with headache, failure of memory, and ptosis in a syphilitic person, there was a brief paroxysm of noisy insanity.

Diseases of the Brain Substance.—The psychical symptoms which are produced by syphilis are often very pronounced in cases in which the paralysis, headache, epilepsy, and other palpable manifestations show the presence of gross brain lesions. In the study of syphilitic disease of the brain membranes, sufficient has been said in regard to these psychical disturbances; but the problem which now offers itself for solution is as to the existence or non-existence of syphilitic insanity—i. e., of an insanity produced by specific contagion without the obvious presence of gummatous disease of the brain membranes. Very few alienists recognize the existence of a distinct affection entitled to be called syphilitic insanity, and there are some who deny that insanity is ever directly caused by syphilis. It is certain that insanity often occurs in the syphilitic, but syphilis is abundantly joined with alcoholism, poverty, mental distress, physical ruin, and various depressing emotions and conditions which are well known to be active exciting causes of mental disorder. It may well be that syphilis is in such way an indirect cause of an insanity which, under the circumstances, could not be properly styled syphilitic.

If there be disease of the brain cortex, produced directly by syphilis, of course such disease must give rise to mental disorders, and, if the lesion be situated in such a way as to affect the psychic and avoid the motor regions of the brain, it will produce mental disorder without paralysis, i. e., a true insanity; again, if such brain disease be wide-spread, involving the whole cortex, it will cause a progressive mental disorder, accompanied by gradual loss of power in all parts of the body, and ending in dementia with general paralysis; or, in other words, it will produce an affection more or less closely resembling the so-called general paralysis of the insane, or dementia paralytica.

As a man having syphilis may have a disease which is not directly due to the syphilis, when a syphilitic person has any disorder there is only one positive way of determining how far said disorder is specific—namely, by studying its amenability to anti-syphilitic treatment. In approaching the question whether a lesion found after death is specific or not, of course such a therapeutic test as that just given is inapplicable. We can only study as to the co-existence of the lesion in connection with other lesions known to be specific. Such co-existence, of course, does not absolutely prove the specific nature of a nutritive change, but renders such nature exceedingly probable.

What has just been said foreshadows the method in which the subject in hand is to be here examined, and the present

section naturally divides itself into two: the first considering the co-existence of anatomical alterations occurring in the cerebral substance with syphilitic affections of the brain membranes or blood-vessels, the second being a clinical study of syphilitic insanity.

In looking over literature, I have found the following cases in which a cerebral sclerotic affection coincided with a gummatous disease of the membrane. Gross and Lancereaux ("Affect. nerv. syphilit.," 1861, p. 245) report a case, having a clear syphilitic history, in which the dura mater was adherent to the skull. The pia mater was not adherent. Beneath, upon the vault of the brain, was a gelatinous exudation. The upper cerebral substance was indurated, and pronounced by M. Robin, after microscopic examination, to be sclerosed. At the base of the brain were very atheromatous arteries and spots of marked softening.

Dr. Jos. J. Brown ("Jour. of Ment. Sci.," July, 1875, p. 271) reports a case in which the symptoms were melancholia, excessive irritability, violent outbursts of temper, very positive delusions, disordered gait, ending in dementia. At the autopsy, which was very exhaustive, extensive syphilitic disease of the vessels of the brain and spinal cord was found. The pia mater was not adherent to the brain. The convolutions, particularly of the frontal and parietal lobes, were atrophied with very wide sulci, filled with bloody serum. The neuroglia of these convolutions was much increased, and "appeared to be more molecular than normal; the cells were degenerated and in many places had disappeared, their places being only occupied by some granules." These changes were most marked in the frontal convolutions.

H. Schüle reports ("Allgem. Zeitschrift f. Psychiatrie," xxviii, 1871-'72) a very carefully and meritoriously studied case. The symptoms during life exactly simulated those of dementia paralytica. The affection commenced with an entire change in the disposition of the patient; from being taciturn, quiet, and very parsimonious, he became very excited, restless, and desiring continuously to buy in the shops. Then failure of memory, marked sense of well-being, carelessness, and indifference for the future developed consentaneously with failure of the power of walking, trembling of the hands, inequality of the pupils, and hesitating speech. There was next a period of melancholy, which was in time followed by continuous failure of mental and motor powers, and very pronounced delirium of grandeur, ending in complete dementia. Death finally occurred from universal palsy, with progressive increase of the motor symptoms. At the autopsy, characteristic syphilitic lesions were found in the skull, dura mater, larynx, liver, intestines, and testicles. The brain presented the macroscopic and microscopic characters of sclerosis and atrophy; the neuroglia was much increased, full of numerous nuclei, the ganglion cells destroyed. The vessels were very much diseased, some reduced to cords; their walls were greatly thickened, and full of long, spindle-shaped cells, sometimes also containing fatty granules.

Dr. C. E. Stedman and Dr. Robert T. Edes report ("Am. Jour. of the Med. Sci.," lxi, 433) a case in which the symptoms were failure of health, ptosis, trigeminal palsy with pain (anæsthesia dolorosa), finally mental failure with gradual loss of power of motion and sensation. At the autopsy the following conditions were noted: apex of the temporal lobe adherent to dura mater and softened; exuded lymph in neighborhood of optic chiasm; sclerosis of right Gasserian ganglion, as shown in a marked increase of the neuroglia; degeneration of the basal arteries of the brain.

These cases are sufficient to demonstrate that sclerosis of the brain substance not only may coexist with a brain lesion, which is certainly specific in its character, but may also present the

appearance of having developed *pari passu* with that lesion, and from the same cause.

It has already been stated in this memoir that cerebral meningal syphilis may coexist with various forms of insanity, and cases have been cited in proof thereof. It is, of course, very probable that in some of such cases there has been that double lesion of membrane and gray brain matter which has just been demonstrated by report of autopsies; further, if we find that there is a syphilitic insanity, which exists without evidences of meningal syphilis, and is capable of being cured by anti-specific treatment, such insanity must be considered as representing the disease of the gray matter of the brain. Medical literature is so gigantic that it is impossible to exhaust it, but the following list of cases is amply sufficient to prove the point at issue—namely, that there is a syphilitic insanity which exists without obvious meningal disease and is capable of being cured by anti-syphilitic treatment.

No.	Reporter and Journal.	Symptoms.	Results. Remarks.
1	Louis Streisand . . . "Die Lues als Ursache der Dementia," Inaug. Diss., Berlin, 1878.	Epilepsy, delirium of exaltation, alteration of speech, headache, failure of memory.	Rapid cure with mercury.
2	<i>Ibid.</i>	Delusions, delirium, general mania, great muscular weakness.	Cure with mercurial cury.
3	Dr. Müller, of Leutkirch. "Journ. of Mental Dis.," 1873-'4, 561.	Symptoms resembling general paralysis, and diagnosis of such made until a sternal node was discovered.	Cure by iodide of potassium.
4	Fr. Esmarch and W. Jersen. "Allgem. Zeitschrift f. Psychiatrie."	Sleeplessness, great excitement, restlessness, great activity, incoherence, and violence.	Cure by mercury.
5	M. Leidesdorf . . . "Medizin. Jahrbücher," xx, 1864, 1.	Complete mania, played with his excrement, and entirely irrational.	Complete cure by iodide of potassium.
6	Dr. Beauregard . . . "Gaz. hebdom. de sci. méd. de Bordeaux," 1880, p. 64.	Symptoms resembling those of general paralysis.	Cure by iodide of potassium.
7	M. Rendu <i>Ibid.</i>	Loss of memory, headache, irregularity of pupils, ambitious delirium, periods of excitement, others of depression, embarrassment of speech, access of furious delirium, ending in stupor.	Mercurial treatment, cure.
8	<i>Ibid.</i>	Hypochondria, irregularity of pupils, headache, failure of memory, melancholia, stupor.	Mercurial treatment, cure.
9	Dr. Albrecht Erlenneyer. "Die luetischen Psychosen," Neuwied, 1877.	Melancholia with hypochondria, sleeplessness, fear of men, and belief that they were all leagued against him.	Iodide of potassium, cure.
10	<i>Ibid.</i>	Religious melancholia, with two attempts at suicide, ending in mania.	Iodide of potassium, cure.
11	<i>Ibid.</i>	At times very violent, yelling, shrieking, destroying everything she could get hands on, at times erotomania; no distinct history of infection, but her habits known to be bad, and had bone oozena and other physical syphilitic signs.	Iodide of potassium, cure.
12	<i>Ibid.</i>	Epileptic attack followed by a long soporose condition, ending in mental confusion, he not knowing his nearest friends, etc.; almost dementia.	Cured by mercurial inunction.

No.	Reporter and Journal.	Symptoms.	Results. Remarks.
13	<i>Ibid.</i>	Great fear of <i>gens d'armes</i> , etc., mania, with hallucinations, loud crying, yelling, etc., then convulsion, followed by great difficulty of speech.	Cured by mercurial inunctions with iodide internally; subsequently return of convulsions, followed by hemiplegia and death.
14	<i>Ibid.</i>	Great unnatural vivacity and loquacity, wanted to buy everything, bragged of enormous gains at play, etc.; some trouble of speech.	Iodide of potassium, cure. Attended to business and seems as well as before. Relapsed. (See Symptoms.)
	<i>Ibid.</i> Relapse of case 14.	Fifteen months after discharge from asylum, relapse; symptoms developing very rapidly, delirium of grandeur of the most aggravated type with marked progressive dementia, failure of power of speech, and finally of locomotion.	Failure of various antisyphilitic treatment.
15	Dr. A. Erlenneyer. "Die luetischen," etc.	Failure of mental powers, inequality of pupils, trembling of lip when speaking, uncertainty of gait, almost entire loss of memory, once temporary ptosis and strabismus.	Iodide of potassium in ascending doses failed. Recovery under mercurial inunctions.
16	<i>Ibid.</i>	Failure of mental powers, pronounced delirium of grandeur, hallucinations of hearing, failure of memory, strabismus and ptosis coming on late.	Iodide of potassium, corrosive sublimate injections. Cure.
17	<i>Ibid.</i>	Failure of memory and mental powers, slight ideas of grandeur, disturbance of sensibility and motility, aphasia coming on late.	Cure with use of iodide and mercurial inunctions.
18	<i>Ibid.</i>	Melancholia, great excitability, ideas of grandeur, after a long time sudden ptosis and strabismus.	Iodide of potassium failed; mercurial course improved; their joint use cured.
19	<i>Ibid.</i>	Various cerebral nerve palsies, great relief by use of mercurial inunctions, then development of great excitement, delirium of grandeur, failure of memory and mental powers, and finally death from apoplexy; no autopsy.	
20	Dr. J. B. Chapin . . . "Am. Journ. of Insanity," vol. xv, p. 249.	Melancholia with attempted suicide, epilepsy, headache, somnolent spells.	Iodide of potassium, cure.
21	<i>Ibid.</i>	Acute mania, noisy, very destructive; syphilitic disease of tibia.	Iodide of potassium, cure.
22	Dr. Snell	Maniacal excitement.	Cured by specific treatment.
23	Wm. Smith. "Brit. Med. Journ.," July, 1868, p. 30.	Apathetic melancholy, indelicate, speaking only in monosyllables, and much of the time not at all, sullen and menacing.	Rapidly cured by conjoint use of iodide and mercurial. The symptoms first developed three months after chance.

A study of the brief analyses of symptoms just given shows that syphilitic disease of the brain may cause any form of mania, but that the symptoms, however various they may be at first, end almost always in dementia, unless relieved.

Of all the forms of insanity, general paralysis is most closely

and frequently simulated by specific brain disease. The exact relation of the diathesis to true, incurable, general paralysis it is very difficult to determine. It seems well established that among persons suffering from this disorder the proportion of syphilitics is not only much larger than normal, but also much larger than in other forms of insanity. Thus, Dr. E. Mendel ("Progres. Paral. der Irren," Berlin, 1880) found that, in one hundred and forty-six cases of general paralysis, one hundred and nine, or seventy-five per cent., had a distinct history of syphilis, while in one hundred and one cases of various other forms of primary insanity only eighteen per cent. had specific antecedents.

Various opinions might be cited as to the nature of this relation between the two disorders, but for want of space the curious reader is referred to the work just quoted and to the thesis of C. Chauvet ("Influence de la syph. sur les malad. du syst. nerveux," Paris, 1880) for an epitome of the most important recorded opinions.

Those who suffer from syphilis are exposed in much greater proportion than are other persons to the ill effects of intemperance, sexual excesses, poverty, mental agony, and other well-established causes of general paralysis. It may be that in this is sufficient explanation of the frequency of general paralysis in syphilitics, but I incline to the belief that syphilis has some direct effect in producing the disease. However this may be, I think we must recognize as established the opinion of Voisin ("Paralyse générale des aliénés," 1879), that there is a syphilitic peri-encephalitis which presents symptoms closely resembling those of general paralysis. Such cases are examples of the pseudo-paralyse générale of Fournier ("La syphilis du cerveau," Paris, 1879).

The question as to the diagnosis of these cases from the true incurable paresis is, of course, very important, and has been considered at great length by Voisin (*loc. cit.*), Fournier (*loc. cit.*), and Mickle ("Brit. and For. Medico-Chirurg. Review," 1877).

The points which have been relied upon as diagnostic of syphilitic pseudo-general paralysis are:

The occurrence of headache, worse at night and present among the prodromes.

An early persistent insomnia, or somnolence; early epileptiform attacks.

The exaltation being less marked, less persistent, and perhaps less associated with general maniacal restlessness and excitement.

The articulation being paralytic rather than paretic.

The absence of tremulousness, especially of the upper lip (Fournier).

The failure of antispecific remedies.

When the conditions in any case correspond with the characters just paraphrased, or when any of the distinguishing characteristics of brain syphilis, as previously given in this memoir, are present, the probability is that the disorder is specific and remediable. But the absence of these marks of specific disease is not proof that the patient is not suffering from syphilis. Headache may be absent in cerebral syphilis, as also may insomnia and somnolence. Epileptiform attacks are not always present in the pseudo-paralysis, and may be present in the genuine affection; a review of the cases previously tabulated shows that in several of them the megalomania was most pronounced; and a case with very pronounced delirium of grandeur, in which the autopsy revealed unquestionably specific brain lesions, may be found in Chauvet's thesis, p. 31.

I have myself seen symptoms of general paralysis occurring in persons with a specific history, in which, of these so-called diagnostic differences, the therapeutic test was the only one that

revealed the true nature of the disorder. In these persons a primary, immediate diagnosis was simply impossible.

Case fourteen of our table is exceedingly interesting, because it seems to represent as successively occurring in one individual both pseudo and true general paralysis. The symptoms of general paralysis in a syphilitic subject disappeared under the use of mercury, to return some months afterward with increased violence, and with a new obstinacy that resisted with complete success antisypilitic treatment. Such a case is some evidence that syphilis has the power to produce true general paralysis.

In conclusion, I may state that it must be considered as at present proved that syphilis may produce a disorder whose symptoms and lesions do not differ from those of general paralysis; that true general paralysis is very frequent in the syphilitic; that the only perceptible difference is one of curability; that the curable sclerosis may change into or be followed by the incurable form of the disease. Whether under these circumstances it is philosophic to consider the so-called pseudo-general paralysis and general paralysis as essentially distinct affections, each physician can well judge for himself.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEEDMAN BULL, M.D.,

LECTURER ON OPHTHALMOLOGY AND OTOLGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY; OPHTHALMIC SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN AND TO THE NURSERY AND CHILD'S HOSPITAL.

(Concluded from page 230.)

EXTENSIVE APOPLEXY OF THE CORNEA.—Mayerhausen ("Centralblatt für praktische Augenheilkunde," September, 1883) reports a very interesting case of this nature, occurring in a man who was burned in both eyes by a lime explosion on July 10, 1880. He saw the patient about two hours after the accident, after most of the particles of lime had been removed. The patient was unable to open either eye, and, when Mayerhausen separated the lids, the palpebral conjunctiva was found greatly reddened and swollen, and the ocular conjunctiva very chemotic. In the left eye the cornea was intact, but in the right eye the entire cornea was milky white and the vision reduced to quantitative perception of light. The necrotic corneal epithelium was removed in fragments, and by July 17th the cornea began to clear up, and the patient went home with directions to continue the iced applications. Twelve days later the patient came again, with marked increase of the ocular injection, the corneal parenchyma again very cloudy and the pupil very narrow. In a few days the injection began to disappear, and on August 7th the poultices were discontinued and a simple lotion of lead-water was employed. On the following day the injection had again returned, the eye was painful, and the cornea showed a peculiar change. The upper half was deeply clouded as before, but the lower half was blood-red, simulating an extensive hyphema. Oblique illumination, however, showed that the blood was in the cornea. When the patient sat up, the level of the blood sank somewhat, and it was seen that the lower third of the cornea was filled with blood which lay beneath the epithelium. Pressure with the probe upon the wall of this blood-cyst showed that there was a detachment of Bowman's membrane from the underlying corneal parenchyma. By means of a pressure bandage and keeping the patient quiet in bed the blood was absorbed quite rapidly, and in two days not a trace of it was to be seen. The case subsequently did well.

THE FILING-OUT OF STRICTURES OF THE NASAL DUCT FOR THE CURE OF CHRONIC DACRYOCYSTITIS.—Tartuferi (*Ibid.*) recommends, as a more rational procedure, the filing or scraping away of the hypertrophic neoplastic tissue which causes stricture of the nasal duct. He makes use of an instrument which consists of a cylindrical steel rod or staff, about one millimetre thick, which ends in a small olive-shaped protuberance about three quarters of a millimetre in diameter and $1\frac{1}{4}$ mm. long. Immediately following this olive-shaped protuberance comes a second, about 1 cm. long and 2 to 3 mm. in diameter. The surface of this second olive is provided with spiral furrows, the divisions between which are sharp cutting edges. When this instrument is passed into the duct with a rotary motion, these cutting edges file or scrape off the tissue which narrows or obliterates the canal. The handle of the instrument has a diameter of 4 mm., and is rough, so that it can be readily revolved between the thumb, index, and middle fingers. Tartuferi first opens into the upper portion of the canal, and divides subcutaneously the internal palpebral ligament. He then introduces a Bowman probe No. 1 into the canal through the stricture, so as to open the way for the file. The latter is then introduced into the lachrymal sac in the direction of the duct, so that the olive-shaped end enters the stricture. As soon as the point is engaged the instrument is pushed slowly downward, and is at the same time rotated on its axis. After it has passed the stricture it should be withdrawn and then passed through again and again in the same manner. The operation may be begun with files of a diameter of 2 mm., and continued with those of $2\frac{1}{2}$ and 3 mm. in diameter. The after-treatment consists in the introduction of cylindrical fish-bone probes, of the same diameter as the file employed, and in injections of astringent or alterative fluids to act upon the mucous membrane of the lachrymal sac.

THE ESTIMATION OF REFRACTION BY RETINOSCOPY BEFORE AND AFTER ATROPINIZATION.—Story ("Ophthalmic Review," October, 1883) has been making some investigations into the value of retinoscopy as a means of estimating refraction, and here gives the results of his observations, before putting the patient under the influence of atropia. There were in all nineteen eyes examined, belonging to ten individuals. Of these eyes, eleven were non-astigmatic, and all these were myopic; four showed compound hypermetropic astigmatism; two simple hypermetropic astigmatism; and two mixed astigmatism. In the eleven myopic eyes, atropia left the refraction in four of them unaltered, in four it reduced the myopia by 0.5 D, and in three it produced an apparent increase of myopia, varying from D 1 to D 1.75. Two of these last three cases are accounted for by imperfect atropinization. In the six eyes examined with hypermetropic astigmatism, the refraction in a meridian remained only twice unaltered; it diminished twice by D 0.5, three times by D 1, four times by D 1.50, and once by D 2. In the two eyes with mixed astigmatism the refraction in the principal meridians diminished three times, and apparently increased once, the hypermetropia in one meridian being found lessened by D 0.25. This increase in the refraction is so small that it must be attributed to an error of observation. In the fifteen cases left, suitable for the purposes of the present inquiry, it is found that: The refraction of a meridian remained unaltered ten times; it diminished by D 0.50 eleven times, by D 1 three times, by D 1.50 five times, and by D 2 once. The average change was D 0.6, and in more than two thirds of the instances, or twenty-one out of thirty, the refraction either remained unaltered or did not diminish by more than D 0.50.

THE MECHANICAL TREATMENT OF DETACHED RETINA.—Grossmann (*Ibid.*) reports three cases of detachment of the retina treated by aspiration of the subretinal fluid and injection of a few drops of a neutral fluid into the vitreous. He used a very

fine hypodermic syringe to aspirate the effused subretinal fluid, and he raised the intra-ocular pressure by injecting a 0.75-per-cent. solution of common salt, followed by a tight compressive bandage. The results were satisfactory enough to lead to further trials. The first case was in a lad of eighteen years, who had a moderately large detachment below and to the inner side of the optic disc, resulting from a blow six months before. The refraction was emmetropic. The second case was in a young man of twenty-five years of age, who had received a severe blow on the head by falling down stairs three months before, and had a shallow but extensive detachment of the retina in the lower part of the right eye, the other eye being normal. The third case was in a woman, aged thirty, who had a large, not very deep detachment, extending over the greater part of the lower half of the right eye, which had lasted as long as she could remember. The refraction was myopic D 3, and there was a small posterior staphyloma in each eye, with central vision that with sph.-D 3 was nearly normal. In all three cases the results obtained were, as far as the replacement of the retina went, highly satisfactory. Functional improvement was small in two cases and absent in the third. This was due only to the changes which had already taken place in the structure of the detached retina.

THE ACTION OF CONTINUOUS ELECTRIC CURRENTS APPLIED IN THE VICINITY OF THE BRAIN, AND ESPECIALLY ON THE EYE.—Gillet de Grandmont ("Recueil d'ophtalmologie," July, 1883) has an interesting article upon this subject. His manner of applying the current is as follows: The rheophores are formed of carbon discs from gas-retorts, covered by chamois-skin. The negative pole is placed below the orbit in the course of the infra-orbital nerve, or in the vicinity of this nerve. The positive pole is placed on the neck behind the angle of the lower jaw, about in the region of the superior cervical ganglion. He avoids producing phosphenes by keeping the rheophores immovable; and the current is never allowed to pass more than four or five minutes, owing to the great difficulty hitherto experienced in affirming any notable increase in caliber of the choroidal and retinal vessels, either in rabbits or man, after the passage of a current from twenty-four cells for half an hour through the eyes, as well as in demonstrating any contraction of the pupil. Gillet de Grandmont was forced to invent the instrument which he describes under the name of the ocular thermometer. It consists of a flat basin or cistern, so curved as to lie conveniently in the inferior conjunctival cul-de-sac without causing any pain to the patient. The stem is divided into tenths of a degree. This instrument is of very great sensitiveness, and admits of proving the depression of the ocular temperature in man after the application of the continuous current. This lowering of the temperature has always been from two to six tenths of a degree. The subjective sensations or phosphenes are the more luminous the less alteration the retina has undergone. In cases of long-continued amaurosis, it is with difficulty that a sensation of pale light is obtained. Another phenomenon to be noted is the metallic taste in the mouth. Occasionally a sense of giddiness is observed.

CATARHIAL CONJUNCTIVITIS WITH CONJECTIVE ARTHRITIS.—Robert (*Ibid.*) reports a series of observations on cases of catarrhal conjunctivitis occurring with or followed by arthritic inflammation. The conjunctival inflammation was characterized by oedematous swelling and a purplish discoloration of the eyelids; a muco-purulent discharge from between their edges; intense congestion of the entire conjunctiva; chemosis; continual lachrymation; lancinating pain, and photophobia. The cornea remained intact throughout. After some days of treatment this conjunctivitis seems to terminate favorably, but in a day or two inflammatory symptoms appear in one or more joints,

eventually become localized in some one joint, and resemble very much blephorrhagic arthritis. He has noticed the combination of diseases very often in young soldiers. He thinks the disease a complex catarrhal affection, which is developed under special atmospheric conditions.

THE PURSE-OR POUCH-SUTURE OF VON WECKER, APPLIED TO THE ABLATION OF STAPHYLOMATA AND TO ENUCLEATION.—Masseton ("Klin. Monatsbl. f. Augenheilk.," September, 1883; "Annales d'oculistique," July-August, 1883) recommends the employment of the pouch-suture invented by Wecker in cases where a corneal staphyloma requires removal, or where enucleation is necessary. It consists essentially in forming with the neighboring conjunctiva detached from the corneal margin, and with the sub-conjunctival tissue, a sort of cap or hood which is attached by sutures in front of the scleral opening. The flexibility of the mucous membrane and its readiness to fall into folds admit of a perfect union, although the wound is a circular one. The first step in this operation is to pass through or across the detached conjunctiva four sutures of different colors, turning or reversing the loops, two by two, over the bridge of the nose and the temple; then the staphyloma is to be removed. The technique of the operation is as follows: After the conjunctiva has been dissected up all around the cornea for the distance of a centimetre, so as to obtain a uniform and resisting hood or cap, the conjunctiva is seized beyond and above the horizontal diameter of the eyeball, at a point two or three millimetres from its detached border, and a needle armed with a disinfected silk suture is passed through it. Then, at a distance of four or five millimetres from each other, successive folds of the conjunctiva are transfixed. Thus, in following around the detached border of the conjunctiva, a point is reached just below the horizontal diameter of the eyeball; here the needle is withdrawn. This for the left eye. If it is the right eye, the border of the detached conjunctiva is followed in the reverse direction. Then remove the staphyloma, guarding carefully the circular suture. Next draw the suture tight and tie it; this produces a sort of knot or excrescence at the center formed by the folds of the conjunctiva. The latter, together with the sub-conjunctival tissue, gives a very resisting covering which will cover over solidly large losses of substance, and prevents all loss of vitreous humor. As soon as the wound is sufficiently consolidated the suture is withdrawn. This operation has, in Wecker's hands, succeeded admirably after enucleation also.

A REFRACTION OPHTHALMOSCOPE.—Guérin ("Annales d'oculistique," July-August, 1883), manager of the optical establishment of Roulot, in Paris, has recently constructed a refraction ophthalmoscope, in which the wheels or discs are moved by a system of escapement and detent or expansion, which is an entirely new method for these instruments. The instrument is composed of two wheels or discs superimposed the one upon the other, one carrying concave glasses, the other carrying convex glasses. They are entirely covered by screw-plates, not even their edges showing beyond the edges of the plates. In the lower part of the instrument are two buttons, one on each face or surface; pressure upon these from above downward causes a progressive series of glasses to pass before the eye; pressure from below upward gives the same series in an opposite direction. This ophthalmoscope, provided with mirrors and a magnifying glass, gives a series of sixteen convex glasses and twenty-seven concave glasses.

THE RELATIONS BETWEEN A VARIETY OF GRAVE KERATITIS AND ASTIGMATISM OF THE CORNEA.—Martin (*Ibid.*) presents a paper upon this subject which has some points of interest. In all the cases examined, the anomaly existed in both eyes and to about the same degree. If there was a difference, the most astigmatic eye was always and sometimes the sole seat of kera-

titis. In the genesis of this variety of keratitis astigmatism plays a dominant part, while the serofulous constitution only acts secondarily. Asymmetrical contractions of the ciliary muscle, in persons whose eyes are occupied with objects of small dimensions, especially in students whose accommodative power in proportion to their age is enormous, will eventually always give rise to disorders of circulation and nutrition of the eyeball, and especially in a membrane deprived of blood-vessels. This influence of accommodation is confirmed clinically, first, by the fact that local atropinization of both eyes with a strong solution is the most efficacious means of bringing about a cure in these cases; and, secondly, by the fact that the wearing of cylindrical glasses is almost certain to prevent a relapse of the disease whenever the accommodation continues to act in a way compensatory of the inequality in the refraction of the meridians. Martin proposes to call this disease "astigmatic keratitis." He formulates his conclusions as follows: 1. The cure of these cases of keratitis demands the paralysis of accommodation in both eyes. 2. Relapses will be avoided by the use of glasses which correct the error of refraction. 3. A first attack will be prevented, in cases of a certain grade of astigmatism, by the use of correcting glasses, which enable the patient to work with the least amount of accommodative fatigue. 4. Patients whose corneæ show lesions due to astigmatic keratitis will often find relief and an improvement of vision by wearing cylindrical glasses.

There are no characteristic lesions in this form of keratitis. Astigmatic keratitis is but a kind of pannus. Corneal pannus, which is the grave type of serofulous keratitis, very often at first presents no difference from pteryctenular keratitis, and both these forms of inflammation may give rise to the same complications.

HEMORRHAGE FOLLOWING THE EXTRACTION OF CATARACT.—Warlomont (*Ibid.*) reports a disastrous occurrence of this kind occurring in both eyes of the same patient, a woman aged sixty-three, and apparently in perfect health. The first operation was done on the left eye on April 9th, by a small lower flap with iridectomy. As soon as the capsule was incised the lens came forward into the wound and almost outside the eye. There was no loss of vitreous, and the lips of the corneal wound were in perfect coaptation. No anæsthetic had been used. Half an hour later nausea and vomiting came on, the bandages became soaked with blood, but the patient complained of nothing but a feeling of discomfort in the eye. On examination, the wound was found filled by a clot of blood which pressed the lips of the wound wide open. As the patient had descended a flight of stairs after the operation, it was thought that the disaster was probably due to this act of imprudence. The eye was entirely lost, and it was deemed advisable to enucleate at once. To this the patient consented, and it was done. The eye was hardened and examined microscopically by Dr. Van Duyse, who found that the hæmorrhage had come from the choroid. At first it was interstitial, but had soon become retro-choroidal, especially in the supero-anterior part of the eye. The intra-ocular membranes were dissected up and rolled down toward the bottom of the eye, and also forward toward the wound. To this was due the prolapse of the entire vitreous and detachment of the retina; to this, detachment of the choroid. The ciliary body was detached from above downward. There was total prolapse of the iris with the anterior capsule of the lens and remains of the lenticular cortex. The retina was normal. The vessels of the anterior part of the uveal tract were engorged with blood. The polygonal retino-choroidal epithelium was normal, and there was nothing found in the choroid to explain the hæmorrhage. The walls of the vessels were normal, there being neither hyaline, fatty, nor atheromatous degeneration. There were no degenerative changes of the choroidal elements so fre-

quently found in elderly persons. There was no histological change in the chorio-capillaris. Nothing was found to account for such a disastrous result of a cataract extraction. The operation upon the second eye was performed on July 16th by Lebrun, by a small median flap, and without an iridectomy. The operation was admirably done, but scarcely had the capsule been incised when the lens presented. The speculum was at once removed, and, as the lens passed out, the eyelids were at once closed by a compress held in the hand. After a few minutes the lids were opened, and the corneal wound was seen to be gaping widely from the intra-ocular pressure of the vitreous which had come forward but had not yet prolapsed. A pressure bandage was at once applied, iced compresses of cracked ice were ordered, and the patient was not allowed to be moved from the bed. Before Lebrun had left the building the bandage became stained with blood and the second eye was found to be lost in the same manner as the first. No explanation is offered of the result in this case.

LATERAL DISLOCATION OF THE LENS WITH SECONDARY GLAUCOMA; PATHOLOGY.—Priestley Smith ("Ophthalmic Review," September, 1883) reports a case of this kind occurring in a man, aged fifty, the results of a kick in the face. After describing the condition of the case, its treatment, and course, he takes up the pathology of the eye as found on examination after enucleation. The views of Hermann Schmidt and Becker proved in this particular case to be at fault. The lens was to all appearances firmly fixed in its new position and made no oscillations whatever, and the high tension which came on within a day or two of the accident, if not earlier, was entirely removed for the time being by a single application of eserine. The author's own opinion that partial dislocations of the lens induce glaucomatous complications by reason of the direct pressure of the periphery of the lens against the periphery of the iris throughout that portion of the circle toward which the lens is displaced, and consequent closure of the angle of the anterior chamber in this situation, was shown to be right in principle by the dissection in this case. But the idea of a direct pressure of the lens-margin upon the iris was wrong; the ciliary processes necessarily intervene. There are three points in the case which, taken in conjunction, clearly prove that the immediate and essential cause of the glaucoma was a mechanical obstruction: 1. The visible pushing forward of the iris at the side toward which the lens was displaced. 2. The complete reduction of the tension which ensued within an hour of the application of eserine to the eye. The only feasible explanation of this effect is a reopening of a closed outlet for the pent-up fluid; and the only conditions in which eserine has such a power are just those in which the outlet is closed by a displacement of the iris, reducible by contraction of the pupil. 3. The position of the lens, ciliary processes, and iris, revealed by dissection. If the lens were suspended in fluid merely, it could drive the ciliary processes forward or compress them only by reason of a momentum imparted to it by movements of the eye or head; if, however, it rested posteriorly against a consistent cushion, its pressure on the processes is readily explained. A vitreous body of normal consistence, or even a fluid vitreous, provided it be retained within its limiting membrane, affords such a cushion. From the fact that in the present instance the iris was not noticeably tremulous, that the lens did not alter its position during several months, and that no vitreous fluid escaped until after the iridectomy was safely completed and the eyelids closed, it is probable that the hyaloid membrane was actually unruptured until the moment when a profuse hemorrhage from the choroid forced the vitreous through it. While asserting the obstructive origin of the high tension in the present case, the author does not deny that inflammation and perverted secretion

may also play a part in such glaucomatous conditions. There were, doubtless, some inflammatory conditions in this eye, and these, in process of time, would very probably have sealed up the outlet of the anterior chamber by solid adhesions, and there were traces of an albuminous secretion from the ciliary processes. It was, perhaps, owing to such changes that eserine soon lost its power of contracting the pupil and reducing the tension.

THE PATHOLOGICAL ANATOMY OF FOLLICULAR INFLAMMATION OF THE CONJUNCTIVA, OR TRACHOMA.—Raehlmann ("Arch. f. Ophthalmologie," xxix, 2) has a very voluminous paper upon this subject considered under numerous heads. In the first stage of their existence, Raehlmann finds that the follicles possess an envelope, formed by the peculiar shape of the cells which form the periphery of the follicle. While in many cases the limiting fiber-layer, in consequence of further growth, is developed anteriorly and the fibrous ring is closed, in other cases there is no such formation, since the follicle either perforates outward, or, in consequence of secondary metamorphoses, loses its peculiar shape and significance. The contents of the follicle may undergo softening, or become sterile in consequence of a process of induration. The older follicles, the contents of which have become partially or wholly softened, may easily be emptied by pressure into the conjunctival sac. In considering the tissue changes in the conjunctiva, in the immediate vicinity of the trachoma-follicle, Raehlmann mentions single or numerous follicular ulcers on the surface of the conjunctiva, and in this way the mucous membrane may be destroyed over a large surface and changed into fibrous connective tissue. In a fresh case of trachoma the follicles are sometimes so densely crowded together that their configuration is altered and they are laterally flattened and apparently run together, empty themselves, and their walls collapse. Eventually the conjunctiva loses entirely its quality of secreting membrane. Hence trachoma may be defined as a follicular, ulcerative inflammation, which ultimately destroys the adenoid tissue of the conjunctiva. In new-born children there are neither gutters nor furrows nor adenoid tissue present, and the conjunctival surface is smooth. With the appearance of the adenoid layer, which grows in some places faster, in others slower, appear also the pseudo-papillæ of the conjunctiva as well as the ridges or crests, between which lie the furrows and gutters. Communicating laterally with the systems of grooves and furrows are fissures in the epithelial layer. As a consequence of an increase in volume of the membrane, deep folds appear, which bring into view the before-mentioned fissures, which may extend through the entire thickness of the conjunctiva. By means of the ulceration the walls of these fissures may grow together partially or entirely, and thus peculiar glandular divisions arise in them. The solid epithelial depressions, deep in the membrane in pure trachoma, only signify regenerative proliferation of the epithelium for the purpose of covering up losses of substance from ulceration and excoriation. Follicular formation in the conjunctiva is not only not without analogy, but, from reasons of analogy, it is made in the highest degree probable, by perfectly similar new formations observed and demonstrated time and again in other mucous membranes. In regard to certain anatomical formations in chronic blepharitis, the newly formed fibrillæ are usually fine, delicate, and without sclerosis. Raehlmann has never seen the conjunctiva much thickened even after the most intense blepharitis, and even in cases where the entire conjunctival sac consisted of connective tissue the cicatricial layer was relatively thin. Although the cicatricial conjunctiva, after blepharitis, may be shrunken and thinned throughout, it still may be made to glide to a moderate degree over the tarsus and very easily in the retro-tarsal fold, which can never be done with the trachoma-

tous conjunctiva. The cicatrix remaining after blennorrhœa is more a superficial cicatrix, more spread out, while the trachomatous cicatrix is more like a typical layer, generally a radiating shape with the greatest extent or diameter along the edge of the lid, with a tendency to retract toward the tarsus. The little vesicular formations on the surface of the conjunctiva found in follicular catarrh are also met with very often in almost healthy mucous membranes, and may exist for years unchanged and without giving rise to any peculiar symptoms. At the beginning of the cicatricial stage there lies upon the inner surface of the tarsus a thick layer of young connective tissue, which may be four or five times as thick as the normal conjunctiva. This young connective tissue becomes the seat of sclerosis and cicatricial retraction. As this lies directly upon the tarsus, without being separated from it by a loose, ductile layer, and is as it were adherent to it, whenever cicatricial retraction occurs it must lead to curvature of the tarsus.

THE COMPARATIVE ANATOMY OF THE LAMINA CRIBROSA OF THE OPTIC NERVE AND ITS IMMEDIATE VICINITY.—Hoffmann (*Ibid.*) sums up his investigations into the comparative anatomy of the lamina cribrosa as follows: 1. The basis of the lamina cribrosa is a vascular network, which is present in all vertebrates. 2. This is everywhere formed of a vascular circle, which arises either in the sclera or choroid, or in the pia, and is analogous to the vascular circle of Zinn, from which it is seen that the lamina seems to be at times a scleral formation, and at times a choroidal or pio-choroidal formation. 3. A connective-tissue network, formed like the vascular network, always accompanies the latter, in the most varied degrees of development, from the marked development met with in the horse down to the merest trace, as found in the hare, elephant, and lower animals. 4. Regular peripheral vessels of large size, branches of the posterior short ciliary arteries, contribute to the nutrition of the optic nerve and retina, which admit of the recognition of the anatomical substratum of the cilio-retinal vessels and anastomose with the central vessels. 5. The vessels above mentioned increase considerably in number when the central vessels are but slightly developed.

THE RATIO OF MAGNITUDE OF AFTER-IMAGES WITH CLOSED EYELIDS.—Mayerhausen (*Ibid.*) gives the following results of his investigations into this subject: 1. With closed lids, the diameter of the after-image appears the greater the less the distance of the observed object is. 2. The entoptic after-images of objects of different size bear the same proportion to each other for all distances of the object of fixation as the sizes of the objects to each other. 3. When the object of fixation is at a distance of two metres, the entoptic after-image equals the size of the object. 4. With the object of fixation at thirty centimetres, the entoptic after-image has about double the diameter of the object. 5. The increase in size of the entoptic after-images is not the same for all distances of the object of fixation; it is, the smallest between the objects of fixation at two and three metres; from here increases progressively in both directions, and increases very rapidly with slight changes in the distance of fixation. 6. The apparent distance of the entoptic after-image for fixation at one and two metres is about equal to the distance of the object, but for all other distances of fixation it is greater than the latter. 7. The size of the object of fixation in itself exerts no influence upon the apparent distance of the entoptic after-image. 8. The apparent distance is the smaller the greater the entoptic after-image appears, and *vice versa*; the former depends upon a secondary decision or opinion. 9. These apparent distances hence by no means correspond to the distances which may be reckoned from the occasional measurements or diameters of after-images for ectopic observation. 10. It may be discerned that, in the waking condition

and with closed lids, when, for a certain time, all voluntary movements are excluded, the ocular axes are directed toward a point which in different individuals is probably not situated at exactly the same distance of about two metres; this condition or state must be regarded as a sort of position of equilibrium. 11. After fixation for any or all other distances, when the lids are closed and voluntary movements are not carried out, the visual axes do not immediately fall back into the above-mentioned position of equilibrium, but remain fixed at or directed toward a point situated on one side or the other of the distance of position of equilibrium, by reason of a still existing state of contraction of the muscles in question. This point lies removed in both directions so much the farther from a point about two metres the greater the convergence or relative divergence was which immediately preceded it. 12. The entoptic after-image most probably always lies in the point of decussation or convergence of the visual axes; its linear magnitude is equal to the distance assumed by the visual axes after cessation of the voluntary object-fixation, divided by the actual distance of fixation of the object, the diameter of the latter being made equal to 1.

INTRA-OCULAR TENSION.—Holtzke's (*Ibid.*) manometrical experiments have yielded him the following results: 1. With the dilatation of the pupil caused by atropia there is intimately connected an increase of the tension in the anterior chamber; and with the contraction of the pupil induced by eserine there goes hand-in-hand a diminution of this tension. 2. Eserine possesses the power of increasing the intra-ocular tension to a considerable degree; but the myosis caused by eserine not only counteracts this power of increasing the tension, but also lowers this tension below the physiological average. 3. Atropine certainly does not possess the power of directly increasing the tension, but it increases the tension in the anterior chamber considerably by its power of dilating the pupil. 4. Under physiological conditions, without the employment of atropine or eserine, the tension in the chamber rises with dilatation of the pupil, and sinks with contraction of the pupil.

MALAXATION (MASSAGE) OF THE EYE AFTER SCLEROTOMY.—Dianoux ("Archives d'ophtalmologie," Sept.-Oct., 1883) has a short paper upon this subject which is of some interest. The isolated cicatrization and definite independence of the lips of the wound are due to the excess of pressure upon them; and it is to the excess of pressure artificially produced that we should appeal to realize similar sanitary conditions in cases of sclerotomy. He advises, on the evening following the operation, that the surgeon should make a series of pressure movements on the eyeball with the ends of the index-fingers, in order to separate the lips of the wound, and thus evacuate a portion of the aqueous humor. If this manœuvre is repeated morning and evening for five or six days, but slight pressure is needed to cause an exudation of the aqueous humor at the angles of the scleral wound, which lifts up the conjunctiva, and thus the tension of the eyeball is diminished. This manœuvre is very well borne by the patients, who soon learn to do it themselves. The massage, as executed by Pagenstecher, does not suffice to cause a gaping of the lips of the wound, and hence he recommends this method of malaxation of the eyeball as more efficacious.

Miscellany.

THERAPEUTICAL NOTES.—*Stigmata Maidis* in the Treatment of Diseases of the Heart.—Dr. Henri Dupont has made use of this drug in cardiac affections, and has recorded his impressions of its action as compared with that of digitalis and convallaria ("Union médicale,"

February 21, 1884). In the trials he has made of it during a period of three years he has been struck with three facts: diuresis, slowing of the heart's action, with improved rhythm, and the tolerance of the drug shown by the system. The diuretic action is almost always manifested at the very first, and goes on increasing up to the thirteenth or fourteenth day; and it is in cardiac affections, with edema of the lower limbs or general dropsy, that the beneficial action of the agent is the most prompt and the most evident. While the dropsy diminishes and often disappears, the arterial tension increases and the venous tension is reduced concurrently, the general condition becomes decidedly improved, and, in particular, the author mentions a subjective feeling of calmness and *bien-être*, except where there is pronounced dyspnea. The latter symptom he has never known to be relieved. In hypertrophy, however, and stenoses, the result has almost invariably been excellent. On the whole, the author thinks the stigmata act more powerfully than digitalis, and with about the same energy as convallaria, but that they are to be preferred on account of their not producing the unpleasant effects that sometimes follow the use of either of the latter drugs. The extract is the preparation always employed by Dr. Dupont; never more than three grammes a day. The strength of the extract is not stated. He is guided as to the dose by the amount of diuresis—only enough need be given to produce free action of the kidneys.

The Heucheloup Mineral Waters.—In a recent number of the "Union médicale," Dr. Paul Labarthe gives the following analysis of these waters:

One litre contains :	Grammes.
Free carbonic acid	0.0413
Sulphate of calcium	1.3887
Sulphate of magnesium	0.1640
Sulphate of sodium	0.5356
Sulphate of potassium	0.0267
Sulphate of strontium	0.0044
Sulphate of lithium	} Traces.
Sulphate of ammonium	
Bicarbonate of calcium	0.3030
Bicarbonate of protoxide of iron	0.0020
Chloride of sodium	0.0068
Phosphate of calcium	Traces.
Silicate of aluminium	0.0220
Total	2.4345

The waters are highly recommended for calculous affections, particularly of the phosphatic variety.

Devotion of Lemon in the Treatment of Miasmatic Fevers.—Dr. Magleiri ("Siglo Médico," November 11, 1883; "Bull. gén. de thérap.," February 15, 1884) gives a very encouraging account of his success in substituting this cheap remedy for quinine in the treatment of the fevers endemic in a highly malarious region. It acted satisfactorily in seventy-two per cent. of the cases. Its action, he remarks, is somewhat slower than that of quinine, and it should not be depended upon in severe cases.

Chlorate of Potassium in Acute Cystitis.—Dr. E. Boegehold ("Deutsche med. Wochenschr.," 35, 1883; "Centralbl. f. d. ges. Therapie," October, 1883) recommends the use of a ten-per-cent. solution of chlorate of potassium internally, in doses of a tablespoonful every two hours. Injections of a three-per-cent. solution into the bladder are said to give very good results in severe cases, but the pain occasioned by the introduction of the nozzle is so great that patients will seldom consent to undergo the treatment.

Veratrine in the Pruritus of the Menopause.—Dr. J. Cheron ("Revue méd.-chir. des mal. des femmes"; "Progrès méd.," February 23, 1884), after remarking upon the obstinacy of pruritic affections at the time of the menopause, no matter what their cause may be, states that veratrine is peculiarly useful, in the form of an ointment:

Veratrine	0.15;
Lard	30.00.

A piece as big as a pea is to be applied to the itching part. When the pruritus is general, the remedy should be given internally. Two centi-

grammes may be made into forty pills with powdered licorice, and from two to six of these pills may be given daily. Not more than one should ever be taken at one time, however, and the increase of dose should be gradual.

PHENIC ACID.—A correspondent writes that, in his opinion, the trials that have been made with chemically pure phenic acid and its preparations by prominent physicians in New York, Chicago, St. Louis, and other large cities, in hospital and private practice, deserve more attention than they have received, for in many cases where an internal antiseptic seemed to be indicated, to destroy disease germs by direct attack, the use of these preparations has met with brilliant success. The best carbolic acid of our chemists being pronounced not to be chemically pure, he thinks it is unsafe, and therefore that only those preparations that have for their basis the pure phenic acid obtained by the process of Dr. Déclat, as set forth in his "Traité de l'acide phénique," should be used, which was the case in the experimental trials to which he alludes.

The pure acid always crystallizes in long, needle-shaped crystals; never in masses. It has no action on litmus paper, and it is soluble in distilled water in the proportion of six per cent. A specimen which does not stand these tests is not chemically pure. In its pure state it changes readily on exposure to moisture, air, and light. This change can be prevented by combining it, atom for atom, with syrup or glycerin. When taken internally in either of these combinations, it resumes its nascent condition so soon as the processes of digestion and absorption free it from its combination. Being then readily diffusible, it permeates the system, performing its germicide work on the way, and passes off principally by the lungs and the skin, but a slight amount being eliminated by the kidneys.

In addition to its principal action as a germicide, there are two minor effects that claim attention. One is that it has a tendency to cause constipation, which can easily be obviated by a light laxative, if necessary. The other is that, to a very slight degree, it diminishes the fluidity of the blood. In many cases, especially those of chronic disease, these effects may not be objectionable; however, the tendency of phenic acid to diminish the fluidity of the blood can be counteracted by the use of an ammonium-phenate combination, which facilitates the circulation by keeping the blood fluid, at the same time stimulating the nervous system and acting as an excellent antipyretic.

The writer considers that phenic acid is indicated in a number of slight ailments, in malarial affections, in scarlatina, and in many chronic diseases. Whenever fever is present, as in the zymotic diseases, the combination with ammonium should be used, alone or alternately, with the simple acid. The compound with sulphur is indicated for chronic diseases, such as bronchitis, catarrh, skin diseases, etc.; that with elementary iodine and that with iodide of potassium for glandular enlargements, scrofula, syphilitic cephalalgia, ostealgia, etc. Hypodermic injections of the various preparations should be resorted to where a more rapid and profound effect is needed, whether in adults or in children. In many cases both methods should be used. The details should all be managed according to the features of the individual case.

TRANSFUSION AS A HEMOSTATIC.—The Paris correspondent of the "British Medical Journal" (February 23, 1884) says: M. Hayem, at the meeting of the Société Médicale des Hôpitaux, on January 26th, made a communication concerning transfusion as a hemostatic. He considers transfusion a valuable hemostatic agent, but does not recommend it in advanced cachectic conditions. Transfusion was practiced in his wards on a patient suffering from pernicious anemia; plegmasia alba dolens immediately appeared; first one limb was affected, afterward the other. The transfusion might have been the cause.

THE VIRUS OF HYDROPHOBIA.—M. Pasteur made an interesting communication to the Paris Academy of Sciences, on February 26th, in relation to canine madness. He stated that the disease could be communicated to a dog by inoculation with fragments of marrow or of nerve taken from a mad dog. He also stated that he had rendered twenty dogs proof against the disease by inoculating them with a modified virus.—*British Medical Journal*.

Original Communications.

THE TREATMENT OF FRACTURES OF THE PATELLA BY THE PLASTER-OF-PARIS SPLINT.*

By JAMES L. LITTLE, M. D.,

PROFESSOR OF CLINICAL AND OPERATIVE SURGERY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PROFESSOR OF SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.

IN presenting this subject to the society this evening, I wish to describe the method of treating simple transverse fractures of the patella with plaster of Paris, which I have used since 1863, and which has never before been described. I am also anxious that it shall serve to draw out a full discussion upon the treatment of this important injury.

The plaster-of-Paris *bandage* has been more frequently used, and the results have not been sufficiently satisfactory to prevent Hamilton from condemning it in these words: "Plaster of Paris is, of all the forms of immovable dressings, the worst, because it is the heaviest; but of them all it must be said that they are necessarily cumbersome as a form of portable apparatus; they are to some extent dangerous, especially in the hands of inexperienced surgeons; they are inefficient as a means of approximating the fragments; they actually serve but one single purpose, namely, to keep the limb straight; and this they do too effectually in many cases, causing an unnecessary degree of passive ankylosis. The limb can be maintained in a straight position by a much simpler and lighter dressing than a plaster-of-Paris splint, and by means which permit it to be daily examined and the condition of the fragments noted and corrected, and which will allow slight passive motion occasionally to the knee joint, a practice which has been found in my experience perfectly safe, and useful in some measure, as far as the ankylosis is concerned. In short, to apply the plaster of Paris, and permit the patient to go about on crutches, as is generally acknowledged by its advocates, is to abandon, practically, every acknowledged indication of treatment except straightening the limb and securing immobility at the knee joint."†

This criticism from so high an authority has evidently been drawn out by his observation on the treatment of the fracture in question by the plaster-of-Paris *bandage*. It will perhaps be best for me to state at the outset, in order to avoid a misunderstanding, that I always make a distinction between the plaster-of-Paris *bandage* and the plaster-of-Paris *splint*—two entirely different methods of using this material. The method which I propose to describe is by the use of the plaster-of-Paris splint, which was first introduced by me in 1861, and was first applied to a fracture of the patella in 1863 in a patient of the late Dr. Tucker, of this city, and which I have used in all the cases that have come under my

care in St. Luke's and St. Vincent's Hospitals, as well as in my private practice.

Immediately after the receipt of the injury I elevate the limb slightly and place it on a pillow or a single-inclined plane, and wait until the swelling and inflammatory action which follow have subsided. The limb is placed in this position simply for the comfort of the patient, and not for the purpose of relaxing the quadriceps extensor muscle, and thus preventing the separation of the fragments, which was formerly considered necessary. Although I have often attempted, I have never been able to demonstrate that it made any appreciable difference in regard to the separation of the fragments whether the limb was in a straight position or with the thigh flexed on the pelvis.

Sometimes, when the effusion into the synovial cavity is great, I apply pressure, as soon as the patient is able to bear it, by means of a bandage. When the swelling has subsided, which takes from five days to a week, the following dressing is applied: A posterior splint is made of two thicknesses of bleached Canton flannel, strengthened in the middle, under the knee, by two extra layers; this is made long enough to reach from a little above the ankle to above the middle of the thigh, and wide enough to cover two thirds of the circumference of the limb above and below the joint, but at the joint it should only just cover the condyles of the femur. Two pieces of Canton flannel, from two and a half to three inches in width, double thickness, one long enough to nearly encircle the limb at the ankle, the other to encircle it at the upper third of the thigh, are prepared at the same time. The pieces designed for the posterior splint are then thoroughly saturated in a mixture of plaster of Paris and water, taking care that the mixture is not too thick,* and then smoothed out upon a board with the hand and applied smoothly to the limb. Then the two bands are prepared in the same way and applied around the upper and lower extremities to hold it in position. A dry roller bandage is then firmly applied over all, and the plaster allowed to set.

As soon as this is accomplished the bandage is removed and we have a firm posterior splint, secured above and below by transverse bands.† Two other strips of a double thickness of Canton flannel, an inch wide, and long enough to overlap on the posterior surface of the splint, are saturated in a fresh mixture of plaster of Paris and then tightly applied above and below the patella, while the fragments are held in position by an assistant, in the same manner as adhesive straps are used for coaptation in this fracture. A dry roller bandage is then rapidly applied with the figure-of-eight turns over the strips. The surgeon then, with thumb and finger of each hand over these coaptation bands, forces the fragments into close approximation,‡ and holds them

* Superfine or dental plaster should be obtained. The mixture should be of about the consistence of cream.

† Sometimes I apply a third band between the knee and the lower one.

‡ The lower coaptation band holds the lower fragment fixed, and at the same time enables the surgeon to make counter-pressure while he forces the upper fragment into position.

* Read before the New York Surgical Society, March 11, 1884.

† "A Practical Treatise on Fractures and Dislocations," by Frank H. Hamilton, M. D., 1880, p. 522.

there until the plaster has set. The bandage is then removed and a fresh one applied over the whole length of the



FIG. 1.

limb.* The dressing is then complete. Fig. 2 shows the splint with the bandage removed.

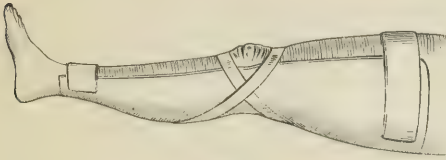


FIG. 2.

It is a good plan for the surgeon, before applying the coaptation bands, to see that the fragments can be easily approximated. In a number of cases I have found some difficulty in keeping the fragments in the same plane, or in preventing them from tilting, there being a tendency for one to rise above the other. This can be overcome by making pressure with the fingers over the line of fracture while waiting for the bands to harden.

This dressing differs essentially from all others, in that the fragments are adjusted by the hands of the surgeon, and the "setting" of the plaster keeps them in the exact position in which they were held.

With this dressing the patient is not compelled to keep his bed, but may sit up or go about on crutches with but little inconvenience.

This apparatus, like all plaster-of-Paris splints, should be applied directly against the skin, care being taken, however, to remove the hair, or else smear the limb with vaseline or oil.

The condition of the fragments can now be examined at any time by simply removing the bandage, and, in case any separation has taken place in consequence of the shrinkage of the limb, it can be corrected by removing the coaptation bands and applying new ones; care should be taken, if this becomes necessary, which is seldom the case, to moisten the posterior splint in order to insure the adherence of the new pieces.

This overcomes one of the objections urged by Dr. Hamilton, the inefficiency of this dressing as a means of approximating the fragments. Another objection which he makes, in regard to the weight of the splint, is not at all applicable, as patients have never complained of this, and I doubt

very much if it weighs any more than the apparatus he recommends.

Pressure sores have never been produced in my experience, nor have the patients ever complained of any pain caused by undue tightness of the dressing. In fact, constriction of the limb by the splint, bands, or bandages, so as to interfere with the circulation, can not occur, even in inexperienced hands. In this respect it is safer than the plaster-of-Paris bandage which Hamilton so justly condemns.

In order to prevent a rough edge at the upper and lower extremities of the splint, it is advisable to fold them over about half an inch, thus bringing a perfectly smooth edge in contact with the soft parts.

This dressing should be left on for from six to eight weeks. The majority of patients rarely have any appreciable separation of the fragments at the end of the treatment, but, as the union is generally ligamentous, a certain amount of separation will take place in time, as in all cases where there is not bony union.

A case that I treated ten years ago by this method came under my notice again a few weeks ago; the fragments, which after the treatment were almost in direct contact, I found had only separated a little more than half an inch.

Two cases treated by this apparatus at St. Vincent's Hospital resulted in bony union. The first case, that of a man about forty years of age, was treated for a transverse fracture of the right patella. After the apparatus was removed, no separation or motion of the fragments could be detected. He remained in the hospital about three months. Six weeks after he left he was brought back with a severe injury of the head, from which he died. The patella was removed, and was found to have



FIG. 3.



FIG. 4.

united by bone. The specimen, which I show the society, has been carefully examined, by section, by Professor W. H. Welch, of the Bellevue Hospital Medical College, and he states that it shows true bony union. The line of fracture is slightly oblique from above downward and outward. The lower fragment is somewhat tilted, and overlaps the upper a little; it is also displaced outward one quarter of an inch. This interesting specimen belongs to the late Professor James R. Wood's collection in the Bellevue Hospital Museum.

In the second case, treated by Professor F. S. Dennis, although the patient was eighty-six years of age, no sepa-

* I have sometimes applied a plaster-of-Paris bandage over the splint. This makes a very strong dressing, but it prevents the inspection of the fragments during the course of the treatment. For this reason I prefer the dry muslin bandage.

ration or movement of the fragments could be detected when he left the hospital.

In comparing this method with the one of wiring the patella in simple fractures, under antiseptic precautions, which has lately come into vogue, I am inclined to give the preference to the one just described, or to any other form of dressing which results in close ligamentous union. The patient is not submitted to a surgical operation, which may endanger his life or the usefulness of his knee joint; for, with the utmost care in antiseptic measures, there is still the possibility of serious complications.

I think all surgeons will agree that a moderate amount of separation of the fragments by a ligamentous band does not in any way interfere with the usefulness of the limb. Hamilton says that, "if the ligamentous band is not more than an inch in length, the use of the limb is not impaired." In a case which I presented at one of the meetings of the society about two years ago, a patient, aged twenty-two, broke his patella transversely below its middle. He was treated by me in St. Luke's Hospital, and was discharged with a ligamentous union of less than half an inch. Six months after, he slipped in walking, and fractured the same patella about half an inch above the first fracture; this also united by ligament. In this case the ligament proved itself stronger than the original bone.

If, then, ligamentous union of a moderate length does not impair the usefulness of the limb, and is as strong as, if not stronger than, the original bone, why should we submit the patient to any serious danger in order to obtain bony union, which at the best is of questionable utility?

While bony union, obtained by wiring, may be the goal for which the idealist strives, I question whether it can ever be conscientiously adopted by conservative surgeons.

MILK DIET IN CHILDHOOD.

By D. M. CAMMANN, M. D.,

VISITING PHYSICIAN TO THE ORPHANS' HOME AND ASYLUM.

THAT milk is the only proper food for infants is universally acknowledged. It is my purpose to consider in the following paper whether the exclusion of meat from the dietary of children under seven or eight years of age and the use of milk as the chief article of food are beneficial. The importance of the subject can scarcely be overestimated. Upon the proper nourishment of the child's body and the careful training of his digestive apparatus depend the good or ill health of the future man and, to a great extent, his ability to succeed in life's struggle.

Milk is now used in much larger quantities than formerly, not only by children, but also by adults. But a pretty general underestimation of its dietetic value still prevails even among those who use it abundantly. Milk contains all the elements necessary to the growth of the body, and is the natural food of the young of all the higher forms of animal life. "A distinguished chemist once remarked to me," says Sir William Jenner,* "Do not forget that a pint of milk contains as much solid animal matter as a full-sized mutton-chop."

It is unnecessary to give an analysis of the composition of milk. Such may be found in any work on dietetics. "Milk," says Pavy,* "is complete in itself. In it exists, besides the organic principles, all the inorganic matter, including both salines and water, that is needed."

"The action of milk," says another writer,† "is exceedingly analogous to that of the cereals, and the combination of the two appears to be the most perfect kind of food."

We might very naturally infer that such a diet would be the best for children. It is with an appreciation of this that the temporary teeth, which begin to loosen and fall out at about the sixth year, are called milk teeth. At this age, too, the delicate mucous membrane of the stomach is not adapted for the meat diet of adult life. Who has not noticed that feverishness and fretfulness, and stomach and intestinal disorders, are common among children who eat largely of meat? In France it is not uncommon to give meat to very young children.

"In France," says an English writer,‡ "children are often fed upon flesh meats when very young, but they are not so healthy as English, and mortality is greater." "My experience is," writes Dr. Clouston,* "that children who have the most neurotic temperaments and diatheses, and who show the greatest tendencies to instabilities of brain, are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. . . . And in such children I most thoroughly agree with Dr. Keith, who, in Edinburgh, for many years, has preached an anti-flesh crusade in the bringing up of all children up to eight or ten years of age. I believe that, by a proper diet and regimen more than in any other way, we can fight against and counteract inherited neurotic tendencies in children, and tide them safely over the periods of puberty and adolescence."

Another writer, after urging the necessity of giving children an abundance of milk, continues enthusiastically: "If this, or anything approaching this, were the rule instead of the exception, rickets in its manifold phases would be completely banished from this country, and a much higher standard of health and robustness would unquestionably prevail."|| The strapping gillie of the Scotch Highlands is brought up on oatmeal and milk, and he is "certainly not wanting in strength and muscular endurance. On the contrary, as every one will admit who has had to keep up with him in a hard day's deer-stalking, he is all wind and limb."^

During the past twenty-five years, in a large institution in this city, meat has been omitted from the dietary of children under eight years of age,† and it must be admitted that this has been long enough to test fully the value of the

* "Food and Dietetics," Pavy, 1874, p. 144.

† "Deductions from an Experimental Inquiry into the Influence of Food," Edward Smith, M. D., "Med. Times and Gaz.," vol. i, 1869, p. 532.

‡ "What Food to Eat," W. W. Ireland, M. D., London, 1865.

* "Flesh-eating Children," Dr. Clouston, "Practitioner," 1881, p. 221.

|| "On the Insufficient Use of Milk as an Article of Diet in England," Dyce Duckworth, M. D., "Practitioner," 1881, p. 351.

^ Dr. Radcliffe, "Croonian Lectures," "Lancet," vol. i, 1873, p. 520.

‡ The Orphans' Home and Asylum of the Protestant Episcopal Church in New York city.

are not admitted under three years of age.

* "Lancet," vol. ii, 1879, p. 716.

diet adopted. It will be appropriate in this place to consider the dietary somewhat in detail. It will be given in full as adopted about a year ago by the Board of Managers. It is essentially the same as that adhered to for the past twenty-five years. The reason for formulating a new dietary was that some changes were about to be made in the management of the institution, and the Medical Board was therefore asked to state its views upon the subject. The report of the board contains the following: "The past records of the institution furnish such ample proof of the value of milk and vegetable food, and the exclusion of meat from the dietary of children under eight years of age, that the Medical Board sees every reason to adhere for the future, to the diet from which such good results have been reaped in the past."

DIETARY FOR CHILDREN UNDER EIGHT YEARS OF AGE,

From November 1st to May 1st.

Sunday, Tuesday, and Friday.—*Breakfast*.—Bread and milk.
Monday.—Oatmeal, steamed, and served hot with molasses.
Wednesday.—Hominy, steamed, and served hot with molasses.

Thursday.—Mush, hot, with milk and sugar.

Saturday.—Wheaten grits, hot, with milk and sugar.

Sunday.—*Dinner*.—Bread, milk, potatoes, cal bage, or pumpkin; sago or rice pudding. *Supper*.—Bread and milk.

Monday.—*Dinner*.—Bread, milk, eggs, potatoes, parsnips, or spinach. *Supper*.—Bread and milk, stewed prunes.

Tuesday.—*Dinner*.—Bread, chowder of salt codfish, potatoes, crackers and milk, cabbage sprouts, or tomatoes. *Supper*.—Corn-starch, with milk and sugar.

Wednesday.—*Dinner*.—Bread, milk, potatoes, onions, rice or bread pudding. *Supper*.—Bread and milk, stewed apples.

Thursday.—*Dinner*.—Bread, milk, eggs, potatoes, spinach. *Supper*.—Mush and molasses.

Friday.—*Dinner*.—Bean porridge, potatoes, parsnips, carrots, or turnips. *Supper*.—Bread and milk, stewed peaches.

Saturday.—*Dinner*.—Bread, milk, potatoes, cabbage, or onions; apple sauce. *Supper*.—Hominy, with milk and sugar.

From May 1st to November 1st.

Breakfast.—Bread and milk.

Sunday.—*Dinner*.—Bread, milk, potatoes, asparagus, or other fresh vegetables, salt bacon broiled, rice or sago pudding. *Supper*.—Bread and milk.

Monday.—*Dinner*.—Bread, milk, eggs, string-beans. *Supper*.—Bread and milk, dried apples stewed.

Tuesday.—*Dinner*.—Bread, chowder of salt codfish, potatoes, crackers and milk, tomatoes, fresh fruit. *Supper*.—Corn-starch, with milk and sugar.

Wednesday.—*Dinner*.—Bread, milk, salt bacon broiled, onions, rice or bread pudding. *Supper*.—Bread and milk, stewed peaches.

Thursday.—*Dinner*.—Bread, milk, eggs, potatoes, string-beans, fresh fruit. *Supper*.—Mush and molasses.

Friday.—*Dinner*.—Bean porridge or salt codfish, potatoes, tomatoes. *Supper*.—Bread and milk, stewed apples.

Saturday.—*Dinner*.—Bread, milk, potatoes, asparagus or other fresh vegetables, fruit. *Supper*.—Hominy, with milk and sugar.

The following fruits may be given: Strawberries, raspberries, peaches, pears, currants, blackberries, blueberries. No changes to be made in the dietary without the approval of the attending

physicians. The report is signed by the Medical Board, Dr. J. R. Leaming, consulting physician, and Dr. Janvrin, Dr. McQuesten, and Dr. Cammann, attending physicians.

I will now give in tabulated form the number of children in the institution, and the number of deaths occurring for the past twenty-five years: *

YEAR.	No. of inmates.	No. of deaths.	Cause of death.
1859.....	78	..	
1860.....	78	..	
1861.....	74	1	Membranous croup.
1862.....	88	..	
1863.....	..	..
1864.....	124	4	1 Pneumonia. 1 Diphtheria. 2 Scarlet fever.
1865.....	139	5	1 Diphtheria. 1 Cholera infantum. 1 Diphtheritic croup. 1 Dysentery. 1 Consumption. The medical report says that the last was " unquestionably caused by hereditary predisposition, both parents having died of that disease."
1866.....	153	3	2 Sequelæ of measles. 1 Inflammation of the brain. Tabes mesenterica.
1867.....	158	1	
1868.....	145	..	
1869.....	..	..
1870.....	153	..	
1871.....	147	..	
1872.....	137	..	
1873.....	..	..
1874.....	147	..	
1875.....	150	..	
1876.....	149	3	1 Small-pox. 1 Typhoid fever, supervening upon remittent fever. 1 from sudden strangulation by gottre.
1877.....	165	..	
1878.....	..	..
1879.....	138	1	Cardiac disease. He had disease of the heart when admitted.
1880.....	141	1	Pneumonia.
1881.....	136	1	Scarlet fever.
1882.....	149	..	

The medical reports have been usually short, and have not entered very fully into details. A few extracts, however, bearing upon the subject under consideration may be given. The report of 1862 says: "From the antecedents of these children, being orphans, we might expect more or less constitutional tendency to disease—and such indeed is the fact; yet their general health will compare favorably with those enjoying the luxuries of their own happy homes. We owe much to the superior sanitary regulations adopted here, the facilities for bathing, the pure air, and, more than all the rest, to the admirable bill of fare—plain, nutritious, bountiful, and yet unstimulating—well adapted to their age and wants."

It will be seen, by referring to the previous table, that five deaths occurred in 1865. During this year meat was added to the dietary of the children, but the old dietary was resumed at the end of the year.

During the year a great deal of sickness prevailed, mostly cases of diseases of the digestive organs. This may have been to some extent due to the sudden and marked

* Children are admitted from three to eight years of age, and are kept in the institution until twelve years old. The table includes all the children. Children over eight years old have meat three or four times a week with their dinner, and at those meals milk is omitted. Otherwise, the dietary is the same as for the younger children.

changes of weather experienced during the early months of that year, and the persistent high temperature prevailing through the summer months. Under the head of gastric derangements ninety-eight cases are reported, and only twenty-five cases under the same heading in the previous year. It is somewhat significant that this was the only year during which the children under eight years of age had a meat diet. The report for 1866 says: "The dietary, being founded upon principles having reference to the wants of the system at the tender age of most of the inmates, is, from that fact, of such a nature as to preclude most of the digestive derangements which are the fruitful sources of most of the more serious maladies."

The report of 1868 contains the following, which is only an echo of many similar reports in other years. It says that during the year there was "a very moderate share of the ordinary diseases usually prevalent in like institutions." The report of 1870 says: "This is not the place to enter into a disquisition upon the causes of sickness among children, but it will be observed that, although we have many very young children, no cases of convulsions, gastric fever, and intestino-spinal paralysis have occurred, for the reason that the chief cause has been avoided, viz.: the ingestion of unwholesome and (for their age) indigestible food, the diet of such consisting entirely of bread, milk, farinaceous food, and vegetables, no 'indulgent parent' being at hand to permit the bolting of meat and other substances unfitted for these stages of physiological development of their digestive organs." The report of 1873, after congratulating the Board of Managers on the few cases of sickness during the previous year, and the length of time that has elapsed since the last death, says: "Truly this is something unusual when we think of the number of children in the institution, and of their tender years. Too much credit, however, can not be given to the physician first connected with the Home, Dr. J. R. Leaming, and for the admirable rules which he established as to the diet of the children. To this one point we attribute in a great measure our exemption from serious sickness." The report of 1875 says: "When we consider that the inmates are the children of parents who themselves lived in crowded and ill-ventilated houses, whose subsistence was unwholesome and still more poorly prepared, we can only see and wonder at the remarkable health in which proper sanitary, hygienic, and dietary measures may result." The report of the Medical Board for 1876 says: "It is with feelings of great satisfaction that it now announces to you the continued good condition of all the inmates of the Home; this is especially satisfactory when we consider the debilitated condition of most of the children on their entrance into the institution. The majority are the descendants of those whose condition in life was so unfavorable to health that they are placed under our care already impregnated with the seeds of disease sown by vice and violation of all sanitary laws. . . . We should fail to do justice to the labors of our predecessors did we omit to acknowledge our indebtedness to them for their very perfect dietetic and hygienic system heretofore established, and still continued with such favorable results."

The rarity of disturbances of the digestive organs has

been especially worthy of remark. Diarrhœa and dysentery in the summer months are rare. For twenty-five years only one death has occurred from dysentery and one from cholera infantum, and these were in 1865, when meat was for a short time added to the dietary. During this year the cases of derangement of the digestive organs were increased nearly three hundred per cent. over the previous year. Another matter worthy of note is the large percentage of recoveries from diseases which from time to time have invaded the Home. More than once has scarlet fever attacked a considerable number of the inmates, yet only two deaths have occurred from this cause in a quarter of a century. The general health and appearance of the children are exceptionally good. They are freer than is usual from colds and other slight ailments so common in the winter.

It has been my endeavor in this paper to avoid theorizing and to give a plain statement of facts, backed by twenty-five years of proof. I think that the experience gained during these years has shown not only that young children can do without meat, but that they become stronger and develop best without it; that they may thus escape many of the disturbances of the digestive organs and other troubles springing therefrom which are so common in childhood. Especially is the diet suitable in our country, where disturbances of the nervous system, both inherited and acquired, are so common. Many men and women doubtless owe to-day good health and success, and even life itself, to its happy influence in early years.

THE ARCHITECTURE OF THE SPINAL CORD,

AND ITS RELATIONS TO MEDICINE.*

By AMBROSE L. RANNEY, M. D.,

PROFESSOR OF APPLIED ANATOMY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE spinal cord comprises that part of our central nervous system which is contained within the canal of the vertebral column. It is continuous with the medulla oblongata. It may be said to commence at the point where the fibers of the anterior pyramids of the medulla oblongata begin to decussate (which point corresponds to the upper border of the atlas), and to terminate at the lower border of the first lumbar vertebra.†

In the fœtus, during its development, and in the new-born child, the spinal cord extends throughout nearly the entire length of the vertebral canal. As the vertebral column increases in length with age, the cord does not grow proportionately; hence, in the adult, the lower end of the cord reaches the body of the first or second lumbar vertebra, and the cauda equina fills the remaining part of the spinal canal.

The circumferential measurement of the spinal cord is about one inch. At its largest part this measurement is exceeded by about two lines (one sixth of an inch).

* This article covers a series of lectures delivered by the author before a class of post-graduate students in medicine.

† Fehst ("Cent. für d. med. Wiss.," 1874) asserts that the spinal cord in women reaches to the lower level of the second lumbar vertebra.

tends from the lower part of the eleventh dorsal to the lower border of the twelfth dorsal vertebra, and is widest from before backward.* The shape of a transverse section of the cord varies with the level at which the section is made. In the dorsal region it is nearly circular; in the cervical and lumbar enlargements the transverse diameter of the section is broadened and the whole section assumes an approach to the triangular form, the base of which is directed forward; finally, the cord assumes the form of a half-moon on section, in the lowest segments, with its convexity directed backward.

When viewed exteriorly, the cord presents *five fissures* and *four columns*, which are less distinct than the convolutions of the cerebrum. On a section being made transversely across its substance, two general subdivisions can be discerned by the naked eye, the *white* and the *gray portions*.

The general exterior of the spinal cord is incompletely divided into two *symmetrical lateral halves*, by the so-called "antero-median fissure" and the "postero-median fissure," which do not cut the cord entirely in two, since a transverse commissure exists, called the "*commissure of the spinal cord*." Now, this point is worthy of your careful attention, since it indicates a clinical fact, viz., that lesions of one lateral half of the cord produce symptoms in a lateral half of the body.

Each lateral half of the cord has *three fissures of its own*: the "antero-lateral fissure," which corresponds to the points of escape of the anterior roots of the spinal nerves; the "postero-lateral fissure," which corresponds to the points of attachment of the posterior roots of the spinal nerves; and the "postero-intermediary fissure,"† which is situated between the postero-median fissure, that helps to divide the cord into its two lateral halves, and the postero-lateral fissure. The first two of these are mere traces upon the surface of the cord, while the last is most apparent in the cervical region.

As demarcated by the fissures named above, the spinal cord presents four subdivisions of its exterior surface, called, respectively, the "anterior," "lateral," "postero-external,"

* These enlargements correspond to the points of origin of the main nerves of the upper and lower extremities. They indicate, therefore, an excess of the ganglionic elements over those found in the dorsal region.

† The postero-intermediary fissure extends from the lower border of the medulla to the lower end of the cervical enlargement of the spinal cord. It is not associated with the transit of nerve roots, in which respect it differs from the antero-lateral and postero-lateral fissures.

and "postero-median" columns.* These are, however, of less importance, from a clinical standpoint, than the columns of fibers named, either after certain special investigators in this

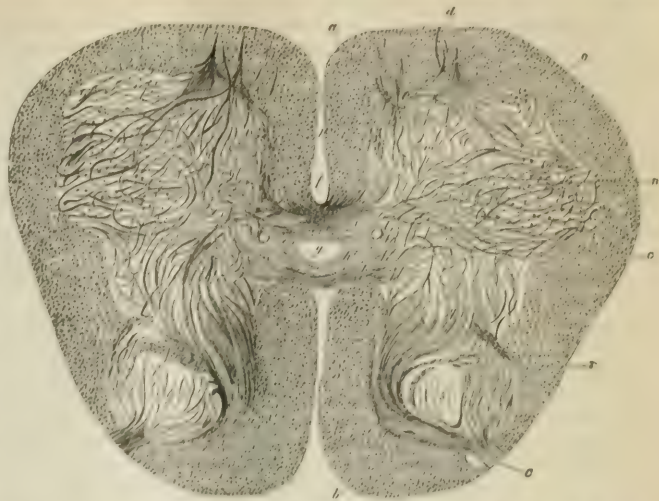


FIG. 5. TRANSVERSE SECTION OF THE SPINAL CORD OF A CHILD, SIX MONTHS OLD, AT THE MIDDLE OF THE LUMBAR ENLARGEMENT, TREATED WITH POTASSIUM CHROMATE OF COBALT AND NITRATE OF UREA. (ENLARGED 20-DIAMETERS.) By means of these reagents, the direction of the fibers in the gray substance is rendered unusually distinct. (Griesch.)

a, anterior columns; b, posterior columns; c, lateral columns; d, anterior roots; e, posterior roots; f, anterior white commissure, in communication with the base of the anterior cornua and the anterior columns; g, central canal with its epithelium; h, surrounding connective substance of the central canal; i, transverse fasciculi of the gray commissure in front of the central canal; k, transverse fasciculi of the gray commissure behind the central canal; l, transverse section of the two central veins; m, anterior cornua; n, great lateral cellular layer of the anterior cornua; o, lower anterior cellular layer; p, subeolateral cellular layer; q, posterior cornua; r, ascending fasciculi in the posterior cornua; s, substantia gelatinosa.

line of science, or from their physiological functions. Subsequent cuts showing the transverse section of the spinal cord illustrate them.

When we come to discuss the clinical points pertaining to spinal localization, in case of disease, you will realize that the further subdivisions of the spinal cord, which I shall impress upon your memories, are not based alone upon the results of enthusiastic microscopy, but are the grand evidences of progress in this direction which the earlier anatomists had not dreamed of, and the foundation of all accurate and positive diagnosis of certain varieties of spinal lesions.

The spinal cord gives off *thirty-one pairs of nerves*, called "spinal nerves," in contradistinction to those of cranial origin. Each spinal nerve arises by two roots, which spring, respectively, from two of the fissures of the lateral halves of the cord, as has been mentioned. These two roots join each other to form the nerve before it escapes from the spinal canal to be distributed to the regions which it is destined to supply. Each pair of nerves and the disc of the cord to which they are attached constitute what is known as a "*spinal segment*."

* Some anatomists include the lateral with the anterior column, under the name of the "antero-lateral column," thus taking in about two thirds of the entire lateral half of the cord.

THE MEMBRANES OF THE SPINAL CORD.

As was the case with the encephalon, the spinal cord is invested from within outward by a *membrane of nutrition*, the pia mater; a *membrane of lubrication*, the arachnoid; and, finally, a *membrane of protection*, the dura mater. These three coverings differ slightly in some respects from those covering the brain, but the differences have little if anything to do with the clinical aspects of the spinal cord.

The DURA MATER of the cord is a cylindrical sac of fibrous tissue of larger dimensions than the cord. It is attached above closely to the foramen magnum of the occipital bone, and ends below by becoming blended with the periosteum of the coccyx. Its outer surface is invested by a layer of fat which separates it from the bones. As the spinal nerves perforate it, the dura and neurilemma become blended. The vertebral, intercostal, and lumbar arteries furnish it with blood. Large plexuses of veins are found on the anterior and posterior portions of the dura. These connect with the external vertebral plexuses.

The PIA MATER envelops the cord, like a tight-fitting glove, from top to bottom. It sends processes into the substance of the cord, which subdivide and form a framework for the nervous elements that compose it. It is also joined to the dura by from twenty to twenty-three processes upon each side, called the "*ligamenta denticulata*." These serve to retain the cord in its proper relations to the vertebral canal. The pia mater is rich in blood-vessels and nerves, and owes its toughness to a net-work of wavy connective-tissue fibers. Its nerves come from the posterior roots of the spinal nerves. In old subjects, the pia is often markedly pigmented in the cervical region.

The ARACHNOID, like all serous membranes, consists of a closed sac with a cavity between its two layers. The inner

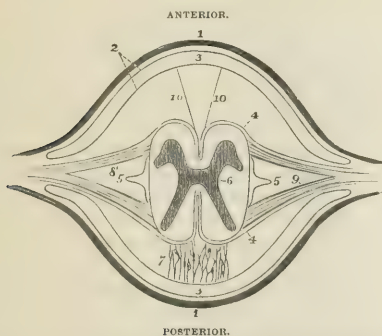


FIG. 6.—This diagram has been introduced to show the arrangement of the different membranes and spaces as they are believed to exist in the spinal column. (After Hilton.)

1, 1, dura mater passing down to end on the sheath of the nerves; 2, 2, layers of arachnoid forming, 3, cavity of arachnoid; 4, 4, pia mater ending on nerve-sheath; 5, 5, ligamentum denticulatum; 6, gray matter of spinal cord; 7, delicate areolar tissue found in the sub-arachnoid space between the arachnoid and pia mater; 8, anterior and smaller, 9, posterior and larger, roots of spinal nerve; 10, 10, similar tissue to 7.

tissue, known as the "*sub-arachnoid tissue*," which contains a fluid called the cerebro-spinal fluid.

THE CEREBRO-SPINAL FLUID.

As mentioned in connection with the ventricular cavities of the brain, the spinal cord is immersed, as it were, in a fluid, the "*cerebro-spinal fluid*," which has free entrance to and egress from the ventricles of the encephalon, since its chief function is to regulate and equalize the pressure* upon the nerve centers, when the blood supply suffers variations, as it does during respiration, in sleep, and in certain diseased conditions. This accounts for the fact that pressure made upon a "*spina bifida*"—a tumor containing this fluid protruding through an opening due to a congenital absence of the spinous processes of the vertebrae—often creates brain symptoms, if sufficient to create excessive intra-ventricular pressure.

The greater part of this fluid is contained in what is known as the *sub-arachnoid space*, which is situated outside of the cavity of the arachnoid, between its inner layer and the pia mater of the cord. Its quantity was estimated by Magendie as about two fluidounces in the human subject; but a somewhat larger amount can be obtained by making an opening in the lumbar region and a counter-opening in the region of the head, so as to allow of the influence of atmospheric pressure in forcing its escape outward.

This fluid may be drawn out of the spinal canal of a living animal, either by means of a simple trocar or a trocar attached to a suction-tube. In the former method no apparent influence of a detrimental character seems to follow a moderate escape; but, when a suction force is used to still further draw off the fluid, the animal becomes enfeebled and subsequently affected with symptoms of motor paralysis. The cerebro-spinal fluid is rapidly reproduced after its withdrawal, and is probably secreted by the pia mater. The fact that an increase of the intra-cerebral pressure will result in coma, if sufficiently intensified, is shown, in a clinical way, upon the human subject, by compression of a spina bifida; and the same result was proved by Magendie, who injected water into the sub-arachnoid space of animals, and thus artificially induced a state of profound coma. The point of communication between the sub-arachnoid space of the spinal canal and the ventricular cavities of the brain is situated in the *fourth ventricle*; † hence, the fluid has to pass upward, through the aqueduct of Sylvius, to reach the third ventricle, and through the foramina of Monro, to enter the two lateral ventricles of the cerebrum. Hilton ‡ maintains that the basilar process of the occipital bone, which is in close relation to that part of the encephalon which is most essential to life, is not in actual contact with the adjacent brain, but has a layer of the cerebro-spinal fluid interposed as a water-bed to protect the parts from injury from any form of concussion, and a similar condition probably exists in other parts. The cerebro-spinal fluid is never in a

* Hilton considers this fluid as analogous, in respect to its function, to the elastic capsule of the various solid viscera. "*Rest and Pain*," London, 1876.

† The foramen of Magendie.

‡ *Op. cit.*

layer becomes blended with the pia mater as that membrane is prolonged upon the spinal nerve-roots (Fig. 6). Between the pia mater and the arachnoid there exists a loose areolar

state of repose. The influence of respiration affects it, by causing a decrease in the arterial pressure in the brain during inspiration and an increase during expiration. As a result of the variations in the volume of blood within the cavity of the skull, the cerebro-spinal fluid rises and falls in quantities sufficient to maintain an equal pressure upon the brain substance. It seems to be proved that the cerebro-spinal fluid is constantly secreted by the pia mater, and as constantly carried off by the lymphatic channels.

Hyrtl has suggested that the displacement of the cerebro-spinal fluid is facilitated to a marked degree by the emptying and filling of the veins of the spinal canal. He believes that the spinal veins are over-filled and distended during inspiration by the descent of the diaphragm, because pressure is then exerted upon the abdominal viscera by that muscle, and it tends to impede the flow of blood into the lumbar veins. The opposite effect, however, is produced at this time upon the cerebral sinuses, as they are emptied by the tendency to a vacuum created within the chest when the diaphragm becomes lowered. The return of the abdominal viscera, which follow the diaphragm when it relaxes (e. g., during expiration), assists in emptying the spinal veins; but at the same time it creates engorgement of the veins of the head and neck by interfering with the entrance of blood into the thorax. Thus it appears that the cerebro-spinal fluid is forced out of the ventricles of the brain during expiration by the excess of blood in the veins of that organ, and that the spinal veins are then empty, in order, as it were, to make room for the excess of the spinal fluid which is displaced by the cerebral engorgement. During inspiration, the direction of the displacement is reversed.

(To be continued.)

A PAROVARIAN CYST AND A FIBRO-CYST OF THE UTERUS IN THE SAME PATIENT.*

By WILLIAM M. POLK, M.D.,

PROFESSOR OF OBSTETRICS AND THE DISEASES OF WOMEN AND CHILDREN IN
THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW
YORK; GYNÆCOLOGIST TO BELLEVUE HOSPITAL.

THE patient whose case is here reported, a woman thirty-three years old, was admitted to ward 23, Bellevue Hospital, August 14, 1882. She had been married at the age of twenty-three. Her menstruation prior to that event had been regular; afterward it was irregular for the most part, and of late the flow had been accompanied by clots.

She became pregnant one year after her marriage, but miscarried when four months along. Several years passed without another pregnancy, and then she had two in rapid succession, each ending like the first. After the first, eight years ago, she had a severe illness, and this she thought was pelvic inflammation. It was at the time of this miscarriage that she was told by her physician that she had a tumor in the pelvis, and he expressed the opinion that it would prevent her carrying a child to term so long as it remained.

* Being remarks, with additions, made before the New York Obstetrical Society, June 5, 1883.

Seven years ago she first noticed an abdominal swelling, which has been present ever since. At first it was trivial, the enlargement seeming to be central; subsequently it became more prominent, occupying then not only the hypogastric, but the left iliac region as well. During the second and third pregnancies there was, of course, decided but temporary increase of the abdominal enlargement already existing, but, besides this natural variation, others were noticed. On three different occasions, while unimpregnated, there was a sudden diminution in the size of the tumor, and accompanying such diminutions there was a series of fluid discharges from the rectum, lasting usually a day or two. She always noticed that a large portion of the fluid discharged was not unlike white of egg in appearance and consistence.

For eight years there has been a slowly increasing impairment of her general health. When admitted to the ward, her appearance was that of a woman of forty-five. In feeble health, anemic, and poorly nourished, she was too weak to sit up. A slight cough, together with an afternoon rise of temperature, suggested phthisis, but a physical examination of the lungs failed to disclose any confirmation of our suspicions. Repeated examinations of the urine showed a constant trace of albumin, but at no time were there other evidences of renal disease found. A careful inquiry into her early history failed to reveal any trace of syphilis, but evidences of hereditary predisposition to phthisis were abundant.

Physical examination showed the abdomen about as large as at the seventh month of pregnancy. The uterus was of normal size, but displaced to the right. The vagina was small, and pushed well to the right by a fluctuating tumor that seemed to fill the entire upper half of the pelvic cavity and to extend into the abdominal cavity as far as the umbilicus. The rectum also was pushed to the right, the lower portion of the tumor resting between it and the upper third of the vagina.

A week after her admission five ounces of fluid were taken from the tumor. It was serous fluid, slightly cloudy, and presenting under the microscope the elements belonging to a simple ovarian cyst. No untoward result followed the tapping. The patient's condition was so unpromising that it was determined to postpone an operation, in order that her general health might be improved. Through the painstaking attentions, first of Dr. Pryor and then of Dr. Fruitnight, the house physicians, her health was so far improved by January, 1883, that she was deemed fit for operation. This was performed January 4th.

After the usual incision, a tumor, as large as a uterus five months pregnant, was found connected with the left broad ligament. It contained bloody serum. It was attached along most of the superior border of the broad ligament, so that its removal was difficult; finally it was accomplished by enucleation, a number of small ligatures being needed to control the bleeding from the stump. A second tumor was then found. This filled the pelvis entirely, pushing the uterus well up toward the outlet, and it seemed to involve the uterus in the neighborhood of the Fallopian tube. Fortunately, it had formed no attachments to its surroundings,

except the rectum. To the anterior wall of this organ it was closely adherent. Having been lifted from the pelvis, it was emptied and cut away close to its uterine and rectal attachments, these being very near each other. This remnant was then removed by enucleation, as had been done with the first tumor. The attachment to the uterus was so intimate that the manœuvre was accomplished with some difficulty; a portion of the uterus was included in the ligature. The attachment to the rectum was easily severed, the apposed peritoneal surfaces readily coming apart, leaving a round hole with cicatricial edges, a quarter of an inch in diameter, in the sac. Where this lay upon the rectum there was a circular depressed cicatrix of the same extent in the wall of the intestine. This was evidently the site of an opening from the sac into the gut, and it served to explain the several discharges from the rectum, and the accompanying diminutions in the size of the tumor, as noted in the history of the case.

After the pelvic peritonæum had been carefully cleansed, the abdominal wall was closed. The operation had consumed two hours, but the condition of the patient was excellent. She made a good recovery, and left the hospital at the end of three months.

The following is Dr. W. H. Welch's report on the nature of the tumor:

The specimen consists of one complete cyst and two portions of a second cyst.

Cyst First Removed.—The cyst is unilocular, and measures 18 cm. in diameter. Its outer surface is smooth and glistening. Its walls are thin and divisible into three layers: 1. An outer layer, serous. 2. A middle, fibrous. 3. An inner, mucous. The inner surface of the cyst is for the most part smooth. At one place, however, there are a number of small papillomatous growths. Adherent to the outer wall of the cyst is a small part of the Fallopian tube. The interior of the cyst is lined by cylindrical, ciliated epithelium. The wall of the cyst is composed mostly of fibrillated connective tissue. The characters of this cyst are those of a cyst of the broad ligament.

Cyst Last Removed.—Of the two pieces of the second cyst, one has a smooth external surface, like serous membrane; the other has a rough exterior, and is evidently devoid of peritoneal covering. The walls of this second cyst are much thicker than those of the first, measuring in places 2 cm. in thickness; in other places the wall is thin. This wall is not distinctly divisible into layers, but looks like dense, smooth muscular tissue. The inner surface of this cyst is partly smooth, partly irregular and rough; in a few places are papillomatous outgrowths. The microscopic examination of the wall of this cyst shows fibrous tissue, mixed with some smooth muscular fibers, and containing many blood-vessels. There are, especially near the inner surface, a number of soft, reddish nodules, some as large as a walnut. In these places are clumps of epithelial-like cells arranged in spaces. These places appear to be cancerous in their nature. No epithelium can be demonstrated on the inner surface of the cyst. This second cyst appears to be fibro-cystic, and to contain a few cancerous nodules.

"ROCK AND RYE" CANDY.—It is reported that an effort will be made to prohibit the manufacture and sale of "rock and rye" candy in Brooklyn. The superintendent of the Society for the Prevention of Cruelty to Children has represented to the Health Commissioner that its effects on children who use large quantities of the candy are pernicious.

A REMARKABLE CASE OF THE EXCESSIVE USE OF MORPHINE.

By LIVINGSTON S. HINKLEY, M.D.,

AVON SPRINGS, N. Y.

Mrs. P., a stranger, called at my office one day and, after a few preliminary remarks, announced that she was a consumer of morphine. As her own syringe had been sent away for repairs, she desired the loan of mine to take her daily dose, to which, after much persuasion, I consented, and was somewhat astonished when she produced a package containing twenty-five grains of the sulphate, and asked me to dissolve it in as little water as possible.

I hesitated, and inquired carefully into her history, which, after an hour's questioning, appeared so plausible that I dissolved the morphine, by the aid of heat, in about thirteen drachms of water, which she proceeded to use while warm, plunging the needle deep into her thigh and complacently filling the syringe and screwing it to the fixed needle for each successive syringeful. While this was going on I watched results. The patient was of good physique, twenty-six years old, weighed 145 pounds, and was a well-educated and intelligent woman. Her eyes were a little dull, and her complexion wore a pallor like the waxy hue of a patient with Bright's disease. After eight or ten syringefuls had been introduced, her cheeks became rosy, her eyes brilliant, her voice softened, and her speech more voluble, and she proceeded to give me the following interesting history:

Three years ago she was attended by her physician in her native city for a threatened abortion, during which time he began the use of morphine hypodermically, and from time to time increased the dose. This continued from the third to the eighth month, when premature labor took place, resulting in the birth of a dead fœtus. After this, finding that she could not resist the desire for morphine, her physician gave her a syringe and instructed her in the use of it. She at first feared to use it, and bought $\frac{1}{4}$ -grain pills, of which she took at first six per diem. After a few days this did not satisfy her, and she resorted to the use of the syringe—buying Magendie's solution by the ounce and gradually increasing her daily allowance.

During her second pregnancy the aforesaid medical adviser endeavored to reduce the dose, and succeeded in bringing it down to a ration of $\frac{1}{4}$ grain per diem. She lived upon this up to five months after her confinement. Then she used tincture of *Avena sativa*, in twenty-drop doses, as a partial substitute, for a whole week, without, strange to say, any beneficial effect. After her physician had finished with her case she again administered morphine to herself, and she remarked: "I do not know how I returned to large doses so quickly." She used, however, a drachm of the crystals each week for three months. At this period her husband, died, and grief caused her to become reckless. She declares that she took a drachm at night and twenty-five grains in the morning, and continued this quantity daily for nine days. Then, becoming fearful of the results, she reduced it to twenty-five grains in one dose once in twenty-four hours, and says she has continued to use it in

this amount up to the present time, but adds that sometimes, when she feels particularly "blue," she takes an additional twenty-five grains during the twenty-four hours.

Thus she lives from day to day, and carries on her occupation, that of a book agent, traveling from town to town, buying morphine in bulk, as she requires it, without the aid of a prescription.

She states that her hair is falling out rapidly, that she suffers severely from constipation, that her appetite is consequently much impaired, that she notices an increased excretion of urine, that her sleep is fitful, that sudden muscular spasms in some portion of her body occur frequently during the day, that her nerves are "unstrung," that she is easily frightened, easily irritated, and finds that she can not control her emotions as formerly. She says she has no uterine trouble, but that menstruation has not occurred in twelve months.

This patient came to my office on three successive evenings, and took twenty-five grains of morphine, as above stated, at each sitting. I have every reason to believe that the history she gives is truthful, and I believe that this records the largest quantity of morphine—viz., eighty-five grains—taken by any living being within twenty-four hours.

She manifested a strong desire to be relieved from this terrible servitude, but has no means to accomplish it. She remarked that she was willing to be incarcerated and take the chances of death or cure. I have her address, should an opportunity for her relief arise.

AVON SPRINGS SANITARIUM.

Clinical Reports.

ROOSEVELT HOSPITAL.

CLINICAL REMARKS BY HENRY B. SANDS, M.D.

Tuesday, February 19, 1884.

Two Cases of Varicocele.—Operation for Necrosis of the Testis.

CASE I.—This man, gentlemen, has a varicocele of moderate size on the left side, and comes here to be treated by operation. He is a robust Swede, twenty-two years old, who, with the exception of this infirmity, enjoys excellent health. Three years ago he noticed that the left side of the scrotum was larger than the right; he noticed also that the size of the swelling diminished when he assumed the recumbent posture, and became larger during hot weather. He has had uneasy sensations in the scrotum and thigh, and also pain in the back. He has worn a suspensory bandage without much benefit.

Here, then, is a case of varicocele in which the discomfort is out of proportion to the lesion. Many persons who have a varicocele of this size experience either no inconvenience, or so little that they are quite contented with the relief afforded by wearing a suspensory bandage. But this man seems to be greatly annoyed by his infirmity, and desires to be radically cured, if possible. I should not comply with his request to perform an operation if I was not satisfied that the one I am about to undertake was free from any risk. Or perhaps I ought to say that the risk is so trifling that it hardly needs to be considered. The severer forms of operation for the cure of varico-

cele—such as are intended to destroy the veins by caustic potash or by the actual cautery, or such as consist in the excision of the veins, or their ligation, in an open wound—I have never been tempted to perform. The operation which I prefer aims to obstruct the distended veins by a ligature of catgut applied subcutaneously. It is made to surround the veins by first transfixing the scrotum with a needle and carrying the thread between the vas deferens and the veins; the needle, having been passed through the scrotum, carrying the thread with it, is then passed in the opposite direction, from behind forward, entering and emerging through the same cutaneous punctures, but, instead of passing between the vas deferens and the veins in returning from behind forward, it is made to pass on the opposite side of the veins, so that when the ligature is tightened the veins are firmly constricted. The ligature and the dressing being antiseptic, no suppuration follows. This operation I believe to be the safest which can be performed for varicocele. In my own practice, only one fatal accident has followed the application of the ligature, which, however, was not antiseptic. In that case I performed Wood's operation, which had before, in my hands, yielded many excellent results. In doing it, a wire is made to surround the veins subcutaneously, and gradually, through the action of a spring, to cut through them or to set up a sufficient amount of inflammation to cause their obliteration. After this operation a certain amount of suppuration occurred invariably, and in the case to which I referred it was attended with septicaemia, of which the patient died. The wire broke a few hours after the operation, and had to be reapplied. Perhaps the interference with the wound which was thus rendered necessary may have given rise to the trouble that ensued. At all events, this accident is the only serious one which in my experience has followed the operation. As you are aware, operations on veins are not now dreaded as they used to be before the advent of antiseptic surgery, because the danger that results from infection of the thrombi can be obviated. With proper antiseptic precautions we do not hesitate to tie arteries and veins alike.

Now, it is necessary, in doing this operation, to be sure not to include the vas deferens in the ligature, as otherwise its function may be destroyed. The operation itself is not very painful, but severe pain, which must be allayed by opium, usually follows it. I am not accustomed to administer ether before the operation, but this patient insists upon taking it. With some difficulty I have been able to separate the vas deferens from the veins in this case, and I am obliged to vary from the usual rule and to ligate the veins to the inner side of the duct. Having constricted the veins with the ligature in the manner described, an antiseptic dressing is applied consisting of iodoform gauze. The patient will have to remain in bed for a week, and morphine will be given hypodermically, to quiet pain.

I have followed up the cases of some patients upon whom I have done this operation, and have found that in some instances the cure has been permanent. Two physicians upon whom the operation was performed about ten years ago have expressed to me the greatest satisfaction with the result.

CASE II.—The second patient is a young man who for more than two years has been troubled with a varicocele on the left side, of larger size than the one in the other patient, but, as he lies down, the difference in size is not so apparent. He has worn a suspensory bandage without relief. The enlargement of the veins is specially marked in the neighborhood of the testicle. In performing the operation upon this man I find no difficulty in separating the vas deferens from the veins, such as I experienced in the case of the first patient.

No special after-treatment is necessary, and suppuration is not likely to occur, as a very moderate amount of inflammation

is set up. There is no reason to believe that blood ever passes through the tied veins again. Still, it is well known that in this operation, however carefully it may be performed, all the veins of the cord are not included, and these may become so enlarged as to reproduce the disease. The operation, therefore, although called radical, does not always effect a radical cure, but enough good is accomplished in the majority of cases to repay the patient for the slight risk which is incurred.

CASE III.—This man is twenty-two years of age, a German, a barber, who came into the hospital on the 15th instant. His hereditary history is good. Four years ago his left foot near the ankle became hot, painful, and swollen, and subsequently an opening took place and discharged copiously. The opening never closed, but two others formed in the neighborhood. He knows of no cause for his disease.

Evidently this man has disease of the tarsus, not, I think, of the ankle joint, because the movements of the joint seem to be unimpaired, and there is no swelling around the joint. I am unable to say positively what bones are diseased, but the openings are on the outer aspect of the foot, and the probe passed into one of them detects carious bone. In my experience the large majority of cases of carious disease of the tarsus occurring in adults require amputation. In children, however, a large amount of bone can be removed, leaving the foot useful as a means of support. In the adult I think the prognosis after operations of gouging in cases of caries is dubious, and I do not undertake the operation with a very sanguine expectation of success. But, as it seems probable that the ankle joint is healthy and the disease of the tarsus limited, and as the man is unwilling to submit to amputation, I shall endeavor to remove the carious bone with a gouge, hoping that thereby his condition may be improved. Whether the operation does good or not depends partly upon the result of it as regards removal of the carious bone, and partly upon the severity of the operative procedure. If you succeed in taking out all the carious bone, the parts will frequently heal, and a cure will be accomplished. But if the carious process goes on, or recurs, you may finally be compelled to resort to amputation, which, if events could have been foreseen, had better have been done at the beginning. Also, if the disease is very extensive, requiring the removal of a large amount of osseous tissue, and especially if two or three of the metatarsal bones have to be removed, it is a question whether amputation is not the better procedure. In this case I hope the disease will not prove to be very extensive.

I have now gouged out a considerable portion of bone, apparently from the os calcis, the astragalus, and the external malleolus. The disease does not seem to have extended forward to the cuboid nor upward to the ankle joint. I am under the impression that I have removed all the diseased structure, and, if I have, I shall be hopeful of a good result. The wound will be packed with iodoform gauze, a peat-bag will be strapped on rather tightly with a bandage, and the foot elevated for a while after removal of the tourniquet, to prevent troublesome hæmorrhage. Before applying the dressings, however, I shall touch the surface of the wound with a solution of chloride of zinc, forty grains to the ounce, which is a superior disinfectant to all others when applied to suppurating surfaces.

FASCINATION.—M. Brémont has made, on sailors, soldiers, and officers, from fourteen to twenty-six years of age, a large number of experiments showing that lethargy, catalepsy, and somnambulism can be produced in healthy non-hysterical people, and that these phenomena are preceded by a peculiar state of fascination. The period of fascination is characterized by a sudden increase in the frequency of the pulse. One third of the young men experimented upon manifested one or more of the above-mentioned symptoms.—*British Medical Journal*.

Book Notices.

The Pathology and Treatment of Venereal Diseases. By FREEMAN J. BUMSTEAD, M. D., LL. D., late Professor of Venereal Diseases at the College of Physicians and Surgeons, New York, etc., and ROBERT W. TAYLOR, A. M., M. D., Professor of Venereal and Skin Diseases in the University of Vermont, etc. Fifth edition, revised and rewritten, with many additions by Dr. Taylor. With one hundred and thirty-nine woodcuts and thirteen chromo-lithographic figures. Philadelphia: Henry C. Lea's Son & Co., 1883. Pp. 906.

FOR more than a score of years this work has been accepted as a standard by the profession, and pride has been felt in it as reflecting the utmost credit on American medicine. It was in keeping with the late Dr. Bumstead's sagacity to determine upon a division of the labor of revising the fourth edition, when he found himself failing in health, and in keeping with his acumen to select so able and painstaking an associate as Dr. Taylor. The result is that, although the senior author has passed from among us, the work is kept quite up to the standard it originally assumed. As our knowledge grows, successive editions still, which can not fail to be called for, will necessarily come more and more to be the work of Dr. Taylor. Indeed, there is no lack of evidence in the volume now before us that the book is fast becoming an exponent of syphilography as it appears to a man yet busily engaged in its study and contributing to its progress.

When we noticed the fourth edition of the book we spoke of Dr. Taylor's rare power of clinical observation, his talent for terse and graphic description, and the internal evidence in every paragraph of his writing that he wrote whereof he knew. We may say, in general terms, that these qualities stand out with undiminished prominence in his work upon this edition, so that it is scarcely necessary to allude to particular portions. We may add, however, since the author calls attention to it in the preface, that he devotes a generous amount of space to an expression of the high esteem in which he has been led to regard coca as an adjuvant in the treatment of syphilis. The colored illustrations, thirteen figures on two plates, have been added by Dr. Taylor, and it must be said of them that they are admirable in execution and well calculated to aid in the elucidation of the text.

The work as it now stands is beyond peradventure destined to maintain for many years to come its position as one of the foremost medical books in the English language, or, for that matter, in any language.

BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of the Principles of Physics. By Alfred Daniell, M. A., Lecturer on Physics in the School of Medicine, Edinburgh. London: Macmillan & Co., 1884. Pp. xx-653. [Price, \$5.]

Illustrations of the Influence of the Mind upon the Body in Health and Disease, designed to elucidate the Action of the Imagination. By Daniel Hack Tuke, M. D., F. R. C. P., LL. D., etc. Second American from the second English edition. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xviii-33 to 492, inclusive.

The Home Physician: a Summary of Practical Medicine and Surgery for the Use of Travelers and of Families at a Distance from Physicians. By Luther M. Gilbert, M. D., Physician to the Connecticut General Hospital at New Haven, etc. New York: G. P. Putnam's Sons, 1883. Pp. vii-131. [Price, \$1.]

THE

NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*Published by
D. APPLETON & Co.Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 29, 1884.

ITALIAN MEDICINE.

We lately had occasion to speak of a new Italian journal of orthopædics. Now two other new and important serial medical publications have reached us from Italy. One of them is a year-book of medical literature, the "*Rivista Annuale delle Scienze Mediche*," edited by Dr. Enrico Martinez, under the direction of Professor Arnaldo Cantani, and published in Milan, Bologna, Naples, and Turin. Two large annual volumes, of about eight hundred pages each, seem to be contemplated, the first including anatomy and physiology, general pathology and therapeutics, special therapeutics, military and legal medicine, and general medicine, and the second covering internal and external medicine. These volumes are called part i and part ii, and we have received the first fasciculus of each. The plan seems to be very much the same as that of the French "*Revue des sciences médicales*," but with an amplification of the usual bibliographical lists somewhat suggestive of our own "*Index Medicus*." So far as the work has been carried in the fasciculi before us, it gives abundant evidence of great care having been taken to make it comprehensive and accurate.

The other publication to which we allude is a monthly journal of general medicine, the "*Rivista Internazionale di Medicina e Chirurgia*," edited by Professor Antonio Raffaele, Dr. Vincenzo Napolitani, and Dr. Domenico Morisani, and published in Naples. We have received the first two numbers, dated January and February of the current year. These early numbers are largely analectic, but they contain several important original contributions, including a Summary of the Present Status of the Question of the Contagiousness of Tuberculosis, by Dr. Napolitani, a Case of Aneurysm of the Ascending Aorta Cured by Galvano-Puncture, by Dr. Francesco Brancaccio, and a Case of Enucleation of the Corpora Cavernosa and Removal of both Testicles for Cancer of the Penis, by Dr. Morisani. Dr. Napolitani's article is of the character of a *revista sintetica*, a style of writing in which the Italians show great power. We scarcely need add that such an article, corresponding to the *revue critique* of the French, is of the utmost value to the reader, or that it demands a high order of ability on the part of the writer.

The Italians might well be proud of their achievements in medicine, if only by way of retrospect, for the old Italian anatomists and surgeons may fairly be said to have laid the corner-stone of modern medicine. But the present activity of the Italian profession, conspicuously illustrated as it has been in very recent years by such occurrences as the establishment of Porro's operation, the revision of our ideas of the constitution of the blood occasioned by Bizzozzero's investigations of the

third corpuscle, and the researches into the physiology of the uterine mucous membrane that have been largely stimulated by the profound studies of the late Professor Ercolani, needs only to be mentioned to be recognized by all who can make the slightest pretension to having kept themselves informed as to the progress of medicine.

But it is not alone in matters of investigation and practical advances that the Italians show to advantage; their literature is equally progressive. Scarcely has an important book in either the English, French, or German language passed through the hands of a few reviewers before an Italian translation appears, and in their periodicals, as will have been gathered from our remarks on the two new publications we began by alluding to, there is to be found a thorough picture of what is going on in the world at large. In view of all these facts, it seems to us that it would be well for the profession in this country to pay more attention to Italian medical literature than has been done hitherto.

PROPOSED LEGISLATION AS TO MIDWIVES.

THE action taken at the meeting of the Medical Society of the County of New York last Monday evening relative to the request that the society should lend its support to certain proposed legislation for the incorporation of the New York College of Midwifery, and for the licensing of midwives, seems to have been the most judicious that could have been taken under the circumstances. Of the two reports made by the committee appointed to consider the subject—the majority report and the minority report—it mattered little which was adopted, for they seem to have differed only in the intensity of their wording. Either of them was decided enough in its denial of the society's authorization of the scheme. The vote, however, was not so decided; the meeting seems to have been almost evenly divided. It is chiefly on this account that we think it well that the approval of the society was not given to the bills, for it would have been a questionable step for such a radical measure to have been sent forth with the formal approbation of the society to back it, when nearly half the members present at the meeting (supposing the vote to have been reversed) were opposed to the action.

It may be questioned whether the measures proposed would not, under ordinary circumstances, have secured more favor at the hands of the society; whether the talk that has lately been created by the way in which the school of midwifery already in existence has been managed has not had the effect of making opponents of many who would otherwise have voted in favor of lending the countenance of the society to the bills in question. The institution was already laboring under the stigma of having, as was publicly alleged, resorted to improper methods of advertising itself, when, on Monday, the day of the meeting, many of the members of the society received a circular, signed by a medical officer of the school, charging a gentleman who had resigned from its staff with having failed to make a proper accounting for the funds that had come into his possession. That the undertaking should have led to such a scandal thu

early, and that the startling charge alluded to was made public just at this time, undoubtedly had its effect.

Still, even if we allow that the considerations in question had no effect in shaping the action of the meeting, the vote was so close that, as one of the speakers prophesies, it seems not at all unlikely that the society will look at the matter of licensing midwives differently before many years have gone by.

THE COLLEGES AND THE PROPOSED STATE BOARD.

WHEN the two bills aiming at the establishment of State supervision in the matter of admitting graduates to the privilege of practicing medicine in this State were under consideration at the recent meeting of the Medical Society of the State of New York, it seemed to be generally felt that careful consideration was necessary before any measure could be devised that would work to the advantage of the profession and without injustice to vested interests. Manifest as that feeling was, so far as could be judged by what was said on the occasion, there has thus far been little disposition shown to discuss the matter in a broad way. Enough has been published, however, to indicate that, as is only too common, side issues are likely to distract the attention that should be concentrated upon the main question, and that an animus of one sort or another is to show its ugly head in place of that unalloyed striving after the good of the profession and the people that alone ought to actuate us in so grave a business.

In particular, there seems to be an insurmountable propensity in some quarters to view the college faculties and the bulk of the profession as arrayed against each other in a quasi-hostile attitude. We do not understand that there is any justification for such a view. The colleges have everything to gain, and nothing to lose, by maintaining an *entente cordiale* with the profession in general; on the other hand, the latter can have no real interest in degrading or humiliating the institutions for which, with scarcely an exception, they feel a regard almost filial. Hot words may come forth in the excitement of debate, and be caught up by mischief-makers, but it is generally understood how little weight should be attached to them. We do not believe that the physicians of the State of New York will allow designing men to draw them from their simple attempt to throw off the yoke imposed upon them by the delegation of legislative powers to inferior and utterly unworthy colleges into a crusade against the colleges in general. Nor can we conceive that most of the medical colleges in the State are of the better class—should construe the movement for the establishment of a State examining board as in any way tending to hamper their usefulness or to detract from the honorable place they hold in the esteem of the profession.

PORRO'S OPERATION.

It seems to us that Dr. Clement Godson, of London, did an inestimable service to obstetrics when he presented the subject of Porro's operation before the obstetrical section of the British Medical Association at its recent meeting, not only because

he was at great pains to give the most ample data bearing upon the present status of the operation from a statistical point of view, but because his appreciation of the value of the measure was eminently fair and discriminative. Dr. Godson gives an elaborate table of the main facts in one hundred and thirty-seven cases of the true Porro operation, and adds a postscript containing a short account of a very recent additional case.

Although the total mortality amounted to a fraction over fifty-five per cent., Dr. Godson is abundantly justified, we think, in maintaining that the operation is one from which gratifying results may legitimately be looked for in properly managed cases, meaning thereby cases in which it is not weakly put off as a *dernier ressort*, but done while yet the patient's general condition is such as to warrant the hope of a successful issue from any severe operative measure. It seems that in a large proportion of the cases the operation has been allowed scarcely a better opportunity than used to be accorded the Cæsarean section. Joined to the vigorous protest which on more than one occasion our countryman, Dr. Robert P. Harris, has raised against the policy of deferring laparotomy until the powers of life have been so wasted as to do away with almost the last chance of success, Dr. Godson's effective article will, it is to be hoped, tend decidedly to lead to a better course of practice.

MINOR PARAGRAPHS.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

SEVERAL weeks ago we announced the suspension of the monthly journal known as the "Proceedings of the Medical Society of the County of Kings," and we then expressed our regret that the journal in question was to be discontinued, together with our hope that, in some form, the proceedings of the society would still be published regularly. We are glad to be able to announce now that the proceedings will be published in this journal, and in this issue we print the first instalment. The society has done a good deal of excellent work in the past, and we believe that our readers will hereafter find the reports of its proceedings of interest.

THE "ARCHIVES DE TOCOLOGIE."

THIS monthly journal of obstetrics and diseases of women and children, founded more than ten years ago by the late Professor Depaul, may certainly now be said to have become firmly established in the favor of the profession. It has lately come under the more immediate editorial care of Professor Charpentier, and we discern a substantial improvement in its contents and in its general make-up. This improvement consists more especially in the addition of abstracts of current literature, largely in place of the diffuse clinical reports that formerly took up a great share of its space. When two such good journals as this one and the "Annales de gynécologie" are sustained by our brethren in France, it must be acknowledged that the field they cover is by no means neglected.

NEWS ITEMS, ETC.

POISONOUS HONEY.—The "Gazzetta degli Ospitali" quotes a correspondent of the "Gardner's Chronicle" to the effect that the honey produced by bees kept where aconite grows in abundance is poisonous.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 25, 1884:

DISEASES.	Week ending Mar. 18.		Week ending Mar. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	9	2	3	2
Typhoid Fever.....	10	4	6	0
Scarlet Fever.....	112	19	83	15
Cerebro-spinal meningitis.....	4	4	9	8
Measles.....	62	9	72	9
Diphtheria.....	52	15	21	15

YELLOW FEVER.—Information is said to have reached San Francisco that yellow fever had broken out on board the United States steamer Iroquois, on the way to Alaska.

THE HEALTH OFFICER OF THE PORT OF NEW YORK.—The State Assembly has passed a resolution requesting Congress to enact a law depriving the Health Officer of his fees, with a view to establishing a salary for that officer instead. A bill now in the hands of the Judiciary Committee of the Assembly fixes the annual salary at \$10,000. It was under the impression that such a bill was unconstitutional that the resolution referred to was passed.

THE CATTLE DISEASE IN KANSAS, which at the time of our last issue was supposed to be the foot-and-mouth disease, seems now to be a gangrenous affection of the feet, due to admixture of spurred rye with the feed. The State Assembly has passed a bill establishing the office of State Veterinary Surgeon.

THE SANITARY CONVENTION AT MEMPHIS, held on Friday of last week, was attended by delegates from Illinois, Minnesota, Michigan, Missouri, Tennessee, Arkansas, Louisiana, and Mississippi.

A NEW ENGLAND SOCIETY OF MILK-PRODUCERS has voted that the State Board of Health, Lunacy, and Charity ought to regulate the sale of milk in a way calculated to insure its purity.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.—On Friday evening of last week the faculty of the school gave a reception at the new building, in East Twentieth Street. The impression was general among those who were in attendance that the building was admirably suited to the purposes of the institution.

A CHARGE OF PRACTICING MEDICINE ILLEGALLY has been brought against the reputed proprietor of a Broadway "museum of anatomy" by the Medical Society of the County of New York, and the accused individual has been paroled pending an examination.

"SLUDGE ACID."—The New Jersey Senate has passed a bill prohibiting the pollution of rivers with this product, heavy penalties being attached to the violation of the prohibition.

"ROUGH ON RATS" is reported to have been the cause of an infant's death in North Carolina last week, having been administered with criminal intent by the child's nurse. It will be remembered that in our last issue we chronicled the poisoning of a New Jersey family with this preparation.

THE MEDICAL SERVICE ON PASSENGER SHIPS.—A bill has been introduced into the Lower House of Congress providing that any vessel bringing passengers to the United States shall be furnished with two hospital apartments on board, one for men and the other for women, each of an area of eighteen square feet for every fifty persons on board. The bill provides also that vessels carrying other than cabin passengers shall carry a licensed surgeon, if the ship's company exceeds fifty persons,

and an additional medical officer in case the number is more than six hundred, together with the necessary medical and surgical supplies. In view of the distinct statements lately made by Dr. Irwin, it is to be hoped that some such action will speedily be taken.

THE STATE MEDICAL SOCIETY OF ARKANSAS will hold its ninth annual session at Little Rock, on Wednesday, April 30, Thursday, May 1, and Friday, May 2, 1884, commencing at 10 a. m. on Wednesday.

DRUGGISTS AND THE NOSTRUM TRADE.—It is reported that the recent action of Brooklyn druggists who agreed upon a specified price for patent medicines has been rescinded, on the ground that the battle ought to be fought by the manufacturers. As the matter now stands, the prices of these necessary (?) evils are at the option of the seller.

THE NEW YORK ACADEMY OF MEDICINE.—At the next regular meeting, to be held Thursday evening of next week, Dr. Henry J. Garrigues will read a paper on the Removal of the Placenta.

THE STATE BOARD OF HEALTH, it is reported, has chosen Dr. Alfred L. Carroll, of Staten Island, its secretary, in place of the late Dr. Elisha Harris. The board has been fortunate in securing the services of so capable a sanitarian as Dr. Carroll.

IMPURE ICE.—The Legislature of Connecticut has passed a bill making the sale of ice taken from polluted waters punishable by a fine of fifty dollars.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 16, 1883, to March 22, 1884:*

BACHE, DALLAS, Major and Surgeon. Leave of absence still further extended seven days. Par. 1, S. O. 50, Headquarters Department of the East, March 14, 1884.

MATTHEWS, WASHINGTON, Captain and Assistant Surgeon. To be relieved from duty in the Department of Missouri, and to report in person to the Surgeon-General of the Army for duty in his office. Par. 12, S. O. 62, A. G. O., March 15, 1884.

BLACK, CHARLES S., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Concho, Texas. Par. 6, S. O. 30, Headquarters Department of Texas, March 10, 1884.

GIBSON, R. J., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Hays, Kansas, and ordered to Fort Wingate, N. M., for duty. Par. 3, S. O. 58, Headquarters Department of Missouri, March 18, 1884.

CROSBY, WILLIAM D., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Huachuca, A. T., and ordered to Fort McDowell, A. T., for duty. Par. 1, S. O. 20, Headquarters Department of Arizona, March 15, 1884.

EDIE, GUY L., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort McIntosh, Texas.

ROBERTSON, REUBEN L., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Ringgold, Texas. Par. 3 and 4, S. O. 33, Headquarters Department of Texas, March 17, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending March 22, 1884:*

STREETS, T. H., Passed Assistant Surgeon. Relieved from Museum of Hygiene, Washington, for duty in the Coast Survey Service.

HALL, C. H. H., Passed Assistant Surgeon. Ordered from the Naval Academy to the Museum of Hygiene.

STEWART, HENRY, Surgeon. Ordered before the Retiring Board.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Tuesday, April 1st:* New York Obstetrical Society (private); New York Neu-

rological Society; Buffalo Medical Association (annual); Elmira, N. Y., Academy of Medicine; Croton Medical and Surgical Union (Katonah, N. Y.); Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome and Niagara, N. Y., and Essex (annual), Hudson, and Union, N. J. (annual).

Wednesday, April 2d: New York Medico-Legal Society; Medical Society of the County of Richmond.

Thursday, April 3d: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.

Friday, April 4th: Practitioners' Society (private).

OBITUARY NOTES.

DR. CHADBOURNE W. WHITMORE, OF GARDINER, ME., died recently in Washington, where he had gone on account of failing health. He was sixty-three years of age and a physician of considerable prominence. He was a member of the Maine Medical Association. His death is supposed to have been due to heart disease.

DR. WELCOME W. SPEAGUE died on Wednesday last at his residence, No. 149 East Nineteenth Street. He was a member of the Medical Society of the County of New York, and a graduate from Bellevue Hospital Medical College in 1875.

Letters to the Editor.

THE USE OF CELLOIDIN AS AN IMBEDDING MASS.

18 EAST FORTY-FIRST STREET, March 19, 1884.

To the Editor of the *New York Medical Journal*:

SIR: In your journal of the 15th inst. there appeared a query in regard to the use of *celluloid* as an imbedding mass. The probabilities are that your inquirer had reference to *celloidin*, which has been quite extensively used for that purpose.

Celloidin was first introduced into histological technique by Schiefferdecker ("Ueber die Verwendung des Celloidins in der anatomischen Technik," *Arch. f. Anat. u. Phys.*, anat. Abth., 1882, pp. 199-203), and has met with general favor. It is a pure pyroxylin, free from all foreign organic constituents, and makes a clear solution free from sediment. It is soluble in equal volumes of alcohol and ether, and the degree of concentration may be varied to suit any particular case.

The following is the manner of preparing and using the material, as practiced in the laboratory of the Alumni Association of the College of Physicians and Surgeons: A saturated solution of celloidin is made in a mixture of equal parts of ether and alcohol (97 per cent.); this requires about twenty-four hours, with occasional agitation. The specimen to be imbedded is soaked in a mixture of ether and alcohol for some time, then transferred to the imbedding fluid and allowed to remain overnight.

One of two ways of imbedding may be adopted:

1. Cover the smooth surface of a cork with a thick layer of celloidin solution and allow it to dry; place the specimen, which has previously been soaked in the imbedding fluid, on this, and cover it, layer by layer, with a solution of celloidin, allowing each layer to partially dry before applying another. When the specimen is completely covered, immerse in alcohol of 80 per cent. for twenty-four hours, when it will be ready to cut.

2. The specimens are imbedded in paper boxes in the usual way, or a cork is wrapped with one or two layers of thick writing paper, allowing it to project an inch or an inch and a half

above the surface of the cork. By this procedure a round box, with the cork for a bottom, is obtained. Into this box pour a small quantity of the imbedding fluid, and allow it to dry. The specimen, having been previously soaked in the celloidin solution, is now placed in the box, adjusted as to position, and allowed to dry for five or ten minutes, so as to fix it; the box is now filled with the imbedding fluid. The boxes are exposed to the air until the imbedding mass has become semi-solid, and are then immersed in weak alcohol (alcohol 95 per cent., two parts, water one part) for twenty-four hours, when the specimen will be ready for cutting. If the specimen has been imbedded in a paper box and sections are to be cut with a sliding microtome, it is necessary to mount it on a cork. This is accomplished in the following manner: Cover the surface of a smooth cork with a thick layer of celloidin solution, allow it to dry, and again cover with the same. Trim off the superfluous imbedding mass from around the specimen, cut the lower surface even, wet it with a drop or two of ether, and adapt it to the layer of celloidin on the cork. Dry for a few moments and place in dilute alcohol for a few hours, when the specimen will be ready for cutting. If the plan of imbedding in the boxes with a cork for a bottom is adopted, the specimen is imbedded and mounted on the cork at the same time.

Sections may be stained with the different staining fluids and mounted in glycerin or other media. If mounted in Canada balsam, and the specimen is to be retained in the imbedding mass, absolute alcohol for dehydrating and oil of cloves for clearing are to be discarded, for they both dissolve the celloidin, and alcohol of 96 per cent. and oil of bergamot, oil of sanders, or oil of origanum, used.

Celloidin is manufactured by E. Schering, of Berlin, and may be obtained of Bachrach & Brother, Baltimore, Md. It comes in the form of gelatin plates and shreds, put up in ounce packages. The shreds are to be preferred on account of being more easily dissolved.

Very truly yours,

G. C. FREEBORN, M. D.

NEW YORK HOSPITAL, PATHOLOGICAL DEPARTMENT.

NEW YORK, March 19, 1884.

To the Editor of the *New York Medical Journal*:

SIR: At the laboratory of the New York Hospital the following method is employed in imbedding objects in celloidin: The celloidin, which is a hard, semi-transparent, colorless material, is cut into small pieces and dissolved in a mixture of equal parts of absolute alcohol and ether until the solution is of a thick, creamy consistence. The solution should be kept in a wide-mouthed bottle, closed by a tight-fitting ground-glass stopper. The object to be imbedded is placed in absolute alcohol for two days to remove all the water, then for a day or two in ether, and is then ready for imbedding. The object is then placed in the celloidin, and left there until it is thoroughly soaked through by it. This lasts about four days. When fine sections of delicate tissues—as the lung, spleen, retina, or testicle—are desired, it is better to leave the object in for a week. After removing the object from the celloidin, place it in ordinary alcohol for a short time. The alcohol coagulates the celloidin, and gives the mass the consistence proper for cutting. Absolute alcohol must be avoided, as it dissolves out the celloidin. The object can now be placed on a suitable-sized cork, the surface of which is covered with a few drops of the celloidin solution or an ordinary (thick) solution of gum arabic, and the cork, with object attached, is placed in ordinary alcohol to harden. After hardening, the cork can be fastened in the clamps of a microtome or held in the hand, and the sections cut. The sections can be stained, and mounted in glycerin or in balsam. When mounted

in balsam, the sections must be cleared in oil of thyme or bergamot, but not in oil of cloves, as the latter dissolves the collodion, and renders the mounting of delicate sections almost impossible. I would add that the collodion may be obtained of George Inness, 45 University Place.

Very truly,

F. W. MURRAY.

PHYSICIANS' AID TO THE INDIGENT.

CHARITY ORGANIZATION SOCIETY OF THE CITY OF NEW YORK. }
CENTRAL OFFICE, 79 FOURTH AVENUE, March 25, 1884. }

To the Editor of the *New York Medical Journal*:

SIR: Will you please advise the medical profession, through your valuable journal, that we find many cases where notes of recommendation given to their free patients for specific objects or for a temporary emergency are used for general and indefinite begging purposes, and minister to vice and idleness and debauched lives? It is rare that such open indorsements are used as the writers intended, and at any rate the temptation to misuse them is very great. At the best, the relief procured through such letters is very uncertain, while there is hardly any condition more cruel to the self-respecting and worthy sufferer than to compel him or her to beg hap-hazard alms from strangers, by the aid of such a letter, which those not familiar with the handwriting will generally distrust. Physicians may refer to us such cases as they are interested in and can not help adequately themselves, and we will do our best to bring to bear upon them all charitable resources of the city.

Yours very truly,

CHARLES D. KELLOGG,
Organizing Secretary.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of March 24, 1884.

ANDREW H. SMITH, M. D., Vice-President, in the chair.

BLINDNESS FROM THROMBOSIS OF THE RETINAL BLOOD-VESSELS IN FACIAL ERYSIPELAS.—Dr. H. KNAPP read a paper on this subject, in which he first reviewed the histories of a number of cases which had been reported, and then stated that he had had a rare opportunity of observing with the microscope a very marked case from the onset to the end—one which exhibited changes not yet described, so far as he knew. The patient was a man forty-one years of age, a merchant, who had lived in the tropics, but from time to time had been in New York. When the weather became inclement he suffered from erysipelas. Last March he suffered from an attack which began in the nasopharynx, and the swelling very soon extended irregularly to the face, involving the eyes and spreading over the scalp. On the sixth day an alarming symptom set in; the patient, who was able to open his swollen eyelids, said he was blind in the right eye. The next day Dr. Knapp was called in consultation, at which time the sight of the other eye had also been lost. Both eyes were intensely swollen and hard, the balls were immovable, and the conjunctivæ were chemotic. Incisions had been made almost two inches in depth, but without liberating pus. Dr. Knapp found a rigid right cornea, somewhat hazy from exposure, but sufficiently clear to allow of examination of the fundus. The left cornea was perfectly clear, and the lids could be sufficiently parted to admit of a good ophthalmoscopic examination. The media were perfectly clear. The appearances

he found in this eye were peculiar, but not altogether new to him, as he had now and then seen them after extirpation of a tumor from the optic nerve, and after some other operations. They consisted mostly of a deficiency or absence of the arteries, the condition which was to be found in such cases on the first or second days—the blood-vessels uniform in character, and unlike anything we were accustomed to see with the ophthalmoscope. Looking over the optic disc, we saw it indicated only by a convergence of the vessels, none of the details of the disc being visible. The blood-vessels were distinguished by their tortuosity and dilatation, and almost black color. The fundus was of a milky opacity. At the periphery the color was normal. Besides, there were numerous dark hæmorrhages. Pressure upon the eyeball produced no change in the picture. It was attributed to an interruption of the blood supply of the retina, compression of the artery and also of the retina; probably the vein was compressed first and then the artery, while the artery with its thicker and more resistant walls still led the blood into the eye, filled the veins, and produced hæmorrhages either in the way of rupture of the small vessels or by diapedesis. The prognosis was considered unfavorable so far as restoration of sight was concerned. The patient never had marked cerebral symptoms. Two days later the swelling of the orbit was diminished, the lids opened better, and the patient felt much better. There was a little ulcer of the right cornea which cleared up, and a view was had of both retinæ. Ophthalmoscopically, the veins had not changed their character, but the arteries were very thin, bright-red lines radiating in the ordinary way, and there was not the slightest doubt but that blood had been carried into the interior of the eye. There were quite a number of recent hæmorrhages. In neither eye was there perception of light, nor had there been since. Gradually the patient recovered his general health, the swelling of the orbits disappeared completely about the fifth week, the balls retreated into their sockets and moved again naturally, there was no increase of tension, the cornea regained its luster, the pupil became moderately dilated, and changes gradually took place within the eyes which interested Dr. Knapp exceedingly. The veins presented the appearance of a rosary, and gradually some of the blood-vessels became interrupted by completely white portions as thick as the vessels. In the course of weeks these white portions, having extended, coalesced, and finally, after about three months, all the blood-vessels except a very few were converted into shining white lines. Only a few contained blood. The patient had been seen several times since, and there was no marked change. He was totally blind. When sight was once lost in these cases it commonly remained lost.

Dr. Knapp briefly referred to the pathology of erysipelas, and stated that the arterial blood-vessels within the eye had transparent walls, and, when the blood supply was cut off, they could not be traced. By pressure during the course of the disease the blood might be cut off and all trace of the arteries disappear, and again reappear when the pressure was removed and the blood allowed to circulate; then there might be a new occurrence of hæmorrhage or of diapedesis. It was known that blood might stand in a vessel and not coagulate, provided the walls of the vessel were normal. In the cases in question the blood in the retinal vessels after a time became organized after the manner in which connective tissue would be thrown out into the meshes of a sponge when left in contact with the broken tissues. Afterward there would be cicatricial contraction. With regard to treatment, we should have to depend largely upon prophylactic measures against erysipelas. In orbital cellulitis of any form the indications were to do away with pressure as early as possible by incision, even if there were no pus. Such a course at least was perfectly rational, but experi-

ence had not yet fully determined its practical value in these cases.

Dr. E. G. LORING said the opportunity to observe these cases occurred very rarely. He had not seen one in the beginning, but had observed the condition in a more advanced stage. He alluded to a case reported at the American Ophthalmological Society in 1879, which had not been mentioned by Dr. Knapp. Dr. Loring was inclined to think that the condition described was due to a phlebitis propagated directly to the walls of the retinal vessels. So far as pressure was concerned, he had seen cases of orbital inflammation from other causes than erysipelas in which there was the greatest degree of pressure, and yet sight and the retinal circulation seemed not in the least impaired.

Dr. T. R. POOLEY thought the explanation of the ophthalmoscopic appearances given by Dr. Knapp quite ingenious and rational as applied to certain cases, but there were some instances in which there was blindness with atrophy of the optic nerve, while there was but slight diminution of the retinal artery, in which it would hardly hold. With regard to transudation from the retinal blood-vessels, or diapedesis, he thought it would not explain the hæmorrhage; he would rather suppose there was actual rupture of the vessels.

The subject was further discussed by Dr. WEBSTER, Dr. HOBROOK, Dr. SMITH, and the author, who said, with regard to the presence of phlebitis, that there was no indication of the same in the walls and around the veins. As to diapedesis, he had also thought there could be no hæmorrhage without rupture of the vessels, until the contrary had been proved recently.

THE COLLECTIVE INVESTIGATION OF INTESTINAL OBSTRUCTION.—Dr. DAVID WEBSTER, chairman of the committee, said that about fifty cases had been reported in response to the circulars sent out, all of which were very interesting, and would be worth listening to; the hour was advanced, however, and, as there was still other important business to bring before the society, he moved that when the society adjourn it adjourn to meet on the 7th of April, for the purpose of taking up this subject. Carried.

THE COLLEGE OF MIDWIFERY AND THE LICENSING OF MIDWIVES.—Dr. W. M. CHAMBERLAIN, as chairman of the committee appointed to consider this matter, handed in a majority report, stating that in the opinion of the committee it was not expedient that the society indorse or support the bills. The question of the conditions under which others than registered physicians should practice midwifery seemed to be an important and a difficult one, and, in the opinion of the committee, might properly be referred to a special committee, or to the comitia minima, for examination and report.

Dr. RALPH WALDO read a minority report, signed by himself, to the effect, first, with regard to the proposed New York Maternity and School of Midwifery, the committee did not recommend the society to indorse or commend the incorporation of such an institution, because it would not be conducive to the reputation of the medical profession and the good of the community. Second, in regard to the proposed act licensing midwives, the committee could not recommend that the society approve of any State legislation giving licenses to practice midwifery or any branch of medicine to persons who were not duly licensed physicians.

Both reports were accepted, and it was moved that the minority report be adopted. Some discussion followed, in which Dr. POLK, Dr. JACOBI, Dr. ALSDORF, Dr. WALDO, Dr. MUNDE, Dr. JOHNSON, Dr. BRILL, and others participated. This motion was withdrawn in favor of one offered by Dr. JACOBI, a member of the committee, that the consideration of both reports be indefinitely postponed. A rising vote was called for, and the motion was lost by one vote. It was then moved that the ma-

jority report be adopted. Lost. It was then moved that the minority report be adopted. Carried.

Dr. JACOBI said he thought that the society should not declare itself against the future consideration of so important a question as the training and licensing of midwives. He perhaps could not fully indorse the form of the bill as it had been drawn, proposing the establishment of the New York School of Midwifery, but that there should be some training school and legislation regulating the practice of midwifery he firmly believed, and it was his opinion that the society would view the matter in a different light within a year or two. He therefore moved a reconsideration of the vote just cast.

Dr. POLK thought it questionable whether the society ought to lend its influence in favor of special legislation in this matter. It was desired that an institution should be incorporated which should receive twenty-five dollars for every confinement case within its wards. This was a demand which every maternity institution in the city had an equal right to make, and the institutions now in existence were probably better suited to carry out the purposes in view than the one proposed was. It was putting midwifery on rather a low plane to trust it to midwives with six months' education in that direction. There was no department of medicine which required more careful education on the part of the practitioner than that of midwifery. The great advances which had been made in midwifery all over the world had been made since it had been taken out of the hands of ignorant women. He said *ignorant* women, and did not refer to those who were graduates of a regular medical college. It was argued on the other side that poor people, who were able to pay but a small sum, had a right to be attended by competent midwives. In reply, it could be said that there were plenty of competent physicians, men and women, in this city, who were willing and would be glad to attend all such cases, and, if necessary, for absolutely no pecuniary remuneration. There were at least fifty educated young men connected with any one of the three principal medical colleges who would freely attend such cases. If there were women or nurses who desired specially to attend women in confinement, they could obtain any amount of experience by making their request known and entering the maternity hospitals already in existence as nurses; there they could stay, not only six months, but sixteen months if they desired.

The motion to reconsider the vote was then put, and declared lost.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of February 18, 1884.

GEORGE G. HOPKINS, M. D., President, in the chair.

A MEMORIAL OF THE LATE Dr. J. MARION SIMS.—The special committee appointed to prepare a memorial of the late Dr. Sims presented the following:

J. Marion Sims, A. B., M. D., LL.D., in many respects the greatest gynecologist of the century—an honorary member of this society—died very suddenly and unexpectedly at 3.15 A. M., Tuesday, November 13, 1883, at his residence, 267 Madison Avenue, New York city. He was born in Lancaster District, S. C., January 25, 1813, and received his earlier education in the common school, completing it by receiving the degree of A. B. from the College of South Carolina, at Columbia, in 1832. He then began the study of medicine in Charleston, but graduated from the Jefferson Medical College, Philadelphia, in 1835.

The next year he commenced general practice in Montgomery, Ala., but soon became interested more particularly in surgery.

On the plantations in the neighborhood many negro women

suffered from vesico-vaginal fistula, and, after a time, the greater part of these were sent to Dr. Sims, who established a small private hospital with sixteen beds.

It was while practicing with this class of patients that he conceived the idea of radically curing this affection. He met with very discouraging results for four years, which he attributed largely, if not principally, to the use of silk sutures, until he began, in 1849, to make use of silver wire. This proved, by his speedy successes, to be a marked step forward in the treatment. In fact, he strongly urged the silver suture in all the departments of surgery. Early in his practice with this class of cases he recognized the need of some means by which retraction of the perineum might be obtained, and he devised, in 1845, his world-renowned speculum.

His health broke down in 1850, and he was confined to his bed for a considerable part of his time. It was while thus confined that he prepared the first account of his operation for vesico-vaginal fistula, which he published in the January number of the "American Journal of the Medical Sciences" for 1852.

Seeking, then, for better health in the North, and a wider field of usefulness, he removed to New York city in 1853. Here the same spirit moved him as in Alabama, to alleviate the suffering of women. It was only a year after his arrival that he got up a public meeting and interested a few influential men in instituting a hospital for the treatment of diseases of women. The result, then, was the opening of such a temporary hospital at once. In 1857 a charter was obtained and an appropriation made for a permanent hospital.

As the selection of a plan for the building was largely left to him, he traveled through Europe in 1861 to study the construction and management of such institutions there. Soon after his return to this country our civil war broke out. This, of course, put a stop temporarily to building operations on the hospital. In 1862 Dr. Sims took his family to England, settling in the west-end of London. He remained abroad for the greater part of the following six years. During this prolonged stay he was not only made a member of most of the prominent medical societies of Europe, but he was decorated with honors by France, Belgium, Italy, Spain, and Portugal—Napoleon III making him a Knight of the Legion of Honor, and Belgium bestowing upon him the order of Leopold I. He practiced extensively abroad, especially in London, and in the beginning of 1866 his work on "Clinical Notes on Uterine Surgery, with Special Reference to the Sterile Condition," was published in that city, which contained such new and startling views that it created a considerable sensation.

In 1866 the first new pavilion of his hospital in New York city was ready to receive patients, and in 1868, when he returned from Europe, he took full charge of the hospital, then running on a more substantial basis. He was during this year elected an honorary member of this society.

He again visited Europe in 1870, and when in Paris, at the outbreak of the Franco-Prussian war, he was selected to accompany and direct the Anglo-American Ambulance Corps. This was the pioneer corps in the service, and gained considerable fame and rendered incalculable service under his directorship.

After returning to America he resumed his services in the Woman's Hospital, but in 1874 he resigned from the Board of Surgeons on account of some unwarrantable rules inflicted on the surgeons by the governing board. Since that time he had not taken any active part in the institution.

From this date on he moved about considerably between Paris, London, Rome, and New York.

At the Louisville meeting of the American Medical Association in 1875 he was elected its president, and on June 6, 1876,

he delivered his inaugural and centennial address at the meeting in Philadelphia.

On April 18, 1873, when in Paris, he performed for the first time the operation of cholecystotomy—a hitherto unknown name and method—for dropsy of the gall-bladder.

During the winter of 1880-'81 he was attacked by pneumonia, which nearly proved fatal. While in London, Dr. Ord, of St. Thomas's Hospital, treated him with great kindness and skill, and gradually he recovered. On October 6, 1881, he read his paper on "The Treatment of Gunshot Wounds of the Abdomen in Relation to Modern Peritoneal Surgery" before the New York Academy of Medicine. This paper he afterward published in the "British Medical Journal." Conspicuous among his other notable articles are those on "Ovariectomy," "Intra-uterine Fibroid Tumors," and "A History of the Discovery of Anesthesia."

Since his last return from England his health had been very fair, and hopes were entertained of his complete recovery. Even up to his last day no outward signs whatever were evident of the impending dissolution. He was preparing to leave for Europe on Saturday, November 17th. His death was due immediately to atheroma of the coronary arteries, with sudden obstruction of the circulation.

As a surgeon, Dr. Sims was skillful, brilliant, and original. Fertile in expedients, he was never thrown off his guard, was ready for every emergency, and never shrank from performing the most hazardous operation when the welfare of his patient demanded it. His perseverance in difficult cases when others would have been discouraged, and his fertility in applying remedies, sometimes bold and often novel and striking, were conspicuously shown.

As a man, he was affable and accessible to all, and the native simplicity of his manners and his gentle feelings excited profound respect and conciliated universal esteem. In the heat of debate his soft and gentle nature was sometimes provoked, under trying circumstances, to use harsh expressions, but he was always magnanimous. His bitterest sarcasm was followed by an ample apology when justice required it. He exhibited a generous sympathy for the afflicted and suffering which at once engaged their affections and confidence. His patients loved him as a personal friend. His death is deplored by the world, and his name will live in the remotest times.

[Signed]

JO. C. HUTCHISON,
J. N. FREEMAN,
PAUL H. KRETZSCHMAR,
E. H. SQUIBB,

Committee.

Dr. A. J. C. SKENE made the following remarks:

In this age men have attained a higher general intelligence and are more nearly equal than at any time in the history of the world.

This elevation of the masses tends to overshadow those who by their superior gifts do noble deeds and become truly great. Justice to the many often modifies the homage given to the few. Still there are men who advance beyond the front ranks and command special attention and higher honor. Such a man was J. Marion Sims.

He left the crowd of gentlemen who contentedly practiced the known and accepted in medicine, to seek new and better means to meet the requirements of suffering women, and he succeeded to the gratification of his own kind heart, the glory of his profession, and the honor of America.

He did original work, and he did it so well that others were able to follow him. When he entered the profession he observed the need of a new department in surgery, and he created it. He gave the key to the art of gynecology, and nearly all

that has been added to it since has been discovered through the means of observation which emanated from his brain.

Nature liberally endowed him for his life-work—the gift of appreciating the wants of the human race, the ingenuity to find means for their relief, the enthusiasm and courage to act upon his convictions, and the personal fascination which enabled him to control others and bring them to see and believe as he did. All this enabled him to do good deeds, and secure the appreciation of his fellow-men; hence to-day he is known and admired in all civilized nations, and his name is found on almost every page of modern medical literature pertaining to woman.

As a great man vanishes from our sight his merits are often magnified when viewed through our tears, and he appears greater and better than when viewed through our smiles of approbation or scowls of envy while he was yet near us. But Dr. Sims will surely remain in memory as he really was while he lived, a master workman who rendered valuable and rare services to his fellow-creatures.

He was not inclined to search for the obscure and profound in science, but he was able and energetic in his efforts to improve the healing art. His watchword must have been, What can I do to save and restore? He aimed to be useful in all he did. In this he was a representative American surgeon. The circumstances of his life and the intensity of his disposition frequently interrupted him in his work, so that while he accomplished much he was capable of far more. If he had remained continuously in practice here, his record, while it might not have been higher, would have been fuller and more complete. Had some admiring friend played the part for him that Boswell did for Johnson, and preserved the hints and suggestions which came thick and fast from his ever-active mind, another volume would have been added to our literature and another monument to his honor.

Along with his talents for which he was admired, he had many humane qualities which gained the love of men. Prominent among these was his keen appreciation of the merits of others. He was ever the first to sincerely compliment and encourage the deserving among his professional brethren, and was ever ready to sympathize with, pity, and forgive the weak and erring; so always he found his way to men's hearts as well as their heads.

Any word that I may say will neither add to nor take from the estimation in which men hold J. Marion Sims; but it is a duty, which one eagerly seeks to perform, to add one leaf to the mass of flowers that have been laid upon the grave of this great man.

Dr. WALTER B. CHASE said:

MR. PRESIDENT: Not often in the history of this organization have we been called to mourn the loss of a brother—either from its active or its honorary membership—whose life and work filled so important a place in medical history and honorable renown! It is not my purpose to pronounce his eulogy, but simply to call to mind some of those noble characteristics which made him what he was. Personally, my acquaintance with him was limited. I knew him as most of you knew him, and as he was known to the medical profession, a man we all delighted to honor, a brilliant surgeon, and an earnest searcher after truth; and yet I shall never forget the time I first met him. It was in the operating-room of the New York State Woman's Hospital—a noble monument to his untiring zeal and energy. There were a cordiality in his greeting and a sincerity in his words and manner which left an abiding impression upon me.

From a recent memorial it appears there was nothing especially remarkable in his early life. None foresaw the brilliant future before him. He was possessed of superior endowments,

pronounced in his personality, self-reliant, and a man of genius. This, with his sympathetic nature, and desire to relieve human suffering, carried him to his pre-eminently high position. The Southern blood which flowed through his veins gave him an impetuous nature, but with it were the lofty aim and the noble purpose. There are ever and always around and above us the new and mysterious, both in nature and in art. It was his province to penetrate something of these mysteries in the domain of surgery. No one at this present time can estimate the far-reaching and beneficent results of his teachings. We know they mark a new era in the history of surgical gynecology, and demonstrate the fact that diseases heretofore considered incurable are subject to the skill of the healing art.

In the annals of American surgery the name of Sims will stand side by side with that of McDowell, and, wherever scientific medicine is known, there will his name be honored. His was a successful life; and, if we estimate it by the good he has done (and what worthier standard have we?), the measure of his success was very large.

But, Mr. President, the truest and best expression of honor to his skill and memory will not be spoken in our time, but will be heard from the lips of women yet unborn, when in the beautiful park of yonder city they point with pride to the monument a grateful profession have raised, and tell their suffering daughters and sisters, There stands the memorial to Marion Sims, the Woman's Friend.

Z. T. EMERY, M. D., *Secretary*.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 21, 1884.

FORDYCE BARKER, M. D., LL. D., President, in the chair.

Dr. HAMLIN, of Auburn, was invited to take a seat on the platform.

LOCOMOTOR ATAXIA AND SYPHILIS.—Dr. LEONARD WEBER read a paper on this subject, in which he first reviewed the general statistics and the opinions of authors concerning the possible connection between locomotor ataxia and syphilis. The percentage of cases of locomotor ataxia in which syphilis was present, according to different authors, varied greatly; commencing from below 18 per cent., we had 18, 20, 21, 70, 80, 88, and 91 per cent. The two latter numbers were those of Erb. Some degree of variation in statistical figures could easily be accounted for, but such as existed here threw doubt upon the value of this method in determining the etiological relation of syphilis to posterior spinal sclerosis. Pathological observations had not definitely proved this relationship. Dr. Weber thought it not improbable that in constitutional syphilis the irritation of the syphilitic poison might start such an inflammation as would lead to the lesions which had been found in posterior spinal sclerosis when other conditions were favorable for its development. He himself had found syphilis as an etiological factor less often than several other conditions. The most common was rheumatism. Masturbation in early youth, and continued for some time, exerted a very baneful influence upon the nervous system in both boys and girls, and laid the foundation not only for so-called nervous affections, but for organic disease. The author had had a few cases of locomotor ataxia in the history of which masturbation in early youth was found to have been a prominent feature. Spinal tabs, from a pathological and a clinical standpoint, was rather a protean disease. So far as his own observations went, in those cases in which there was also a history of syphilis benefit was derived from antisyphilitic treatment, and in some cases the benefit was quite marked, but there had not been a complete cure in any case. Authors, how-

ever, had reported a few cases in which the symptoms entirely disappeared under antisyphilitic treatment. In cases in which a syphilitic history was present, the prognosis, so far as some degree of improvement in the symptoms was concerned, was usually better than in other cases, but the therapeutic results even in such cases had fallen far short of the anticipations of the positivists.

Dr. Weber's experience, with syphilis had convinced him of the importance of taking the disease early in hand, and of following up the treatment persistently for years, if the individual wished to escape the tertiary effects of the disease, and among others the baneful influence which it often had upon the cerebro-spinal system. When a syphilitic history was present in a case of tabes, mercury should not be given by the mouth, but by inunction, the latter method being far more efficacious and speedy in its action. The following statistics were given, based upon his experience with syphilis: The whole number of cases treated was one hundred and thirty-four, of which number one hundred and fifteen were in men, and nineteen in women. None of them were under observation less than four years, and most of them eighteen to twenty years. The details of one case were given, the only case which he had ever seen in which there was a distinct history of syphilis occurring twice in the same individual. The last initial lesion appeared five years after the first. Of the one hundred and thirty-four patients, eighteen, or 13.5 per cent., had, up to the present time, presented symptoms of specific lesions of the cerebral nervous system; eight of the eighteen, of the brain alone. Six of the eight were men, two were women. Five cases were of the brain and spinal cord combined, all in men. Five of the cord only, four in men and one in a woman. Two of the eight patients who had syphilis of the brain alone died of cerebral symptoms. The other six were still alive, but not cured. Of the five with syphilitic affection of the cerebro-spinal axis, two succumbed to the disease; three were still alive. Of the five with spinal syphilis, one, a woman, died of syphilitic paraplegia; four were living, and had been relieved after treatment.

Of tabes he had records of seventeen cases. The first case was a typical one of locomotor ataxia. There was no syphilitic history. The second was a typical case of tabes involving the brain; there was a history of venereal excess, and syphilis was suspected. In the third case there were rheumatic influences, but absence of syphilis. In the fourth case there was typical tabes, but absence of syphilis. In the fifth case the patient contracted syphilis after having had tabetic symptoms many years. Rheumatic influences were the most important in the ætiology. In the sixth, a typical case of tabes, there had been venereal excess; syphilis suspected; there were rheumatic influences. The seventh was an atypical case, with a history of rheumatic influences, but not of syphilis. The eighth was an atypical case, early masturbation being a presumable cause; there was no syphilis. The ninth, a typical case, ended in death from cardiac disease. The cause was early and long-continued masturbation; there were rheumatic influences, but there was no syphilis. The tenth, of the spinal type, was caused by venereal excess. There was no syphilis. The eleventh, atypical in form, was of the spinal type. There were rheumatic influences, but there was no syphilis. In the twelfth, an atypical case, there was no syphilis, but probably venereal excess. The thirteenth was a typical case of the lumbar type; syphilis played the most important, perhaps the only part. The patient improved promptly under antisyphilitic treatment. In the fourteenth, an atypical case, there were none but rheumatic influences. In the fifteenth, a slowly progressive case of typical lumbar type, there had been syphilis twenty years before, and venereal excess for many years; improvement followed the use of galvanism and hydropathy. The

sixteenth was a typical case of tabes; there had been early masturbation, and afterward prolonged physical exertion, but no syphilis. Improvement resulted from galvanism and hydropathy. The seventeenth, a typical case of tabes involving the entire cerebro-spinal system, terminated in dementia paralytica, of which the patient died. There was an undoubted history of syphilis.

The author drew the following conclusions: *First.* There was not sufficient evidence to show that syphilis might be the direct cause of a typical form of locomotor ataxia, in other words, of posterior sclerosis of the cord.

Second. There was proof, and plenty of it, that syphilis produced certain lesions in the cord and its meninges as surely, if not as frequently, as in the brain, that these lesions might be, and often were, followed by symptoms of tabes, and that they were generally relieved by prompt and energetic specific treatment, but rarely cured.

Third. Experience had shown him that the tendency of the syphilitic virus to produce lesions in the nervous centers occurred the sooner the less its course was interfered with by judicious and long-continued antisyphilitic treatment. Older cases were more apt to develop neuroses than those of recent date.

Fourth. As shown by all observers, after syphilitic lesions of the cerebral nervous system were once established, they might often be relieved, but seldom if ever cured, by specific measures. Thus we had reasons in cases of syphilis for insisting upon long-continued and timely treatment, for keeping accurate and judicious watch over the patient, and for attending to specific symptoms as early as possible.

Fifth. The inunction treatment with mercury in fresh cases of syphilis was the best means of reducing the disease to an early and harmless latency.

The President said that, for the purpose of bringing out some remarks on certain points, he would venture to detain the audience a few minutes by referring to three cases which had come under his care, and which were very vividly brought before his mind by the paper of the evening. Although the author had inferentially shown the value of therapeutic results in throwing light on the pathology, he had not emphasized this point in such a way as, to the President's mind, it had been emphasized by personal observation, especially in another class of disease. In brief terms he would mention three cases in which the therapeutic results had led him to believe, and to feel a strong conviction, that the locomotor ataxia was the result primarily of syphilitic poison in the system.

The first case occurred in 1873, in the person of a young man, unmarried at that time, who sent for him on account of what he called rheumatism. He had been gradually finding that he could walk with difficulty, and he suffered from severe pains in the ankle joints—symptoms which gradually increased until he was unable to walk. At last there was complete paraplegia—entire loss of motion and sensation in the lower half of the body—and paralysis of the bladder and rectum. While he had been exposed to venereal trouble, there was no history of syphilis. Syphilis being suspected, however, fifteen-grain doses of iodide of potassium, with a sixteenth of a grain of corrosive sublimate, were given, the iodide being gradually increased until two drachms were taken daily. Within two months the patient began to regain control of the extremities and of the bladder and rectum; after two years he considered himself in excellent health and got married, and had remained healthy since until very recently, when he had bronchitis, and suffered, as was stated, a good deal from his old rheumatism.

The second case was that of a man of fifty-five years, who had bad syphilis in early life, but had remained in good health until the staxic symptoms began to develop. He was put upon

antisymphilitic treatment, and recovered from the ataxic symptoms.

The third case was that of a surgeon in the late civil war, who two years ago began to suffer from difficulty in locomotion, and finally from paralysis on the left side. He denied having had primary disease, but, being thoroughly convinced that his condition was due to syphilis, Dr. Barker gave iodide of potassium and corrosive sublimate, and, as in the other cases, the incidental treatment which symptoms might demand. At that time there was paralysis of one side, with inability to articulate and disturbance of the mind. The rapidity of recovery was marvelous; within one month he could walk, the appetite returned, he gained flesh, the mind cleared up, and he was now apparently perfectly well. It would be evident that the President referred to cases in which there were symptoms of locomotor ataxia, without his attempting to draw a distinction as to types of the disease.

Dr. R. W. AMIDON wished only to put himself on record as one of those who were opposed to calling typical locomotor ataxia a syphilitic disease. Those who held the view that locomotor ataxia was due to syphilis generally founded their opinion upon statistical data, and, as shown by Dr. Birdsall in a paper before the American Neurological Society last summer, and by others, this was a doubtful foundation. Only about nine and five tenths per cent. of the cases, according to Dr. Birdsall's statistics, showed a possible connection between tabes and syphilis. Dr. Amidon had never seen a case of locomotor ataxia, in which he felt satisfied there was sclerosis of the posterior columns of the cord, benefited by antisymphilitic treatment. He thought that, if we wished to acquire light on the subject, we should have to look to pathological anatomy. Syphilis was more apt to attack the membranes than the substance of the brain and cord, and most authors agreed that in posterior sclerosis the contents of the nerve tubules were first affected. The course of the disease was against its being syphilitic; it was slow and progressive, while the course of most tertiary lesions was rapid. What experience he had had, both in the way of treatment and the study of the literature and the pathology of the disease, all went in one direction, namely, against the theory that locomotor ataxia was a syphilitic lesion.

Dr. R. W. TAYLOR said he was already on record as an opponent of the theory, founded on statistics, of the causation of locomotor ataxia by syphilis, and he was very glad to hear the cautious manner in which Dr. Weber had handled the subject. He reviewed the statistical evidence offered by Fournier and others, and expressed his opinion that it was not well founded; Fournier, for instance, made a specialty of venereal disease, and, naturally, if a patient had syphilis and ataxic symptoms, he would go to Fournier. Again, those statistics were largely retrospective, and not founded upon a critical investigation into the patients' past histories. The lesions of syphilis, as Dr. Amidon had said, usually developed in the membranes of the brain and cord, and did not correspond with the pathology of typical tabes.

Dr. W. R. BIRDSALL had heard only the last part of the paper, but said, with regard to the statistics which had been quoted from his paper, that there were forty-two cases of locomotor ataxia in which particular inquiry was made with regard to the presence or absence of syphilis. The number in which there was a syphilitic history was only four, or about 9.5 per cent. The average deduced from the statistics of various authors was about 43 per cent. While we should not ignore these statistics, he thought that up to the present time they were not sufficiently large to be of very definite value. Another fact might be mentioned: that Erb did not recognize the duality of the venereal sore, and this would account in part for the large

number of cases in which he found a syphilitic history. Still, it was somewhat remarkable, after all allowance had been made, that there should have been evidence of syphilis in so many of the cases reported by Erb and others. He himself was disposed to think that syphilis might produce such an effect upon the nervous system as, like venereal excess, great fatigue, and other conditions, to predispose to spinal sclerosis. It also seemed to him that, where there was an incipient sclerosis of the posterior columns, syphilis coming on afterward might be made worse by it. An important point suggested by the President was with regard to what should be called locomotor ataxia. He believed that there were a great variety of affections of the cord in which there was locomotor ataxia, so far as the symptoms were concerned, but in which there were also other symptoms, and other portions of the cord were affected than the posterior columns alone—the lateral columns, for instance—in which there was a variety of other symptoms, which were often confounded with those of true sclerosis of the posterior columns. He believed that an anatomical division was an important one to make.

Dr. E. L. KEYS thought the statistical element could not be entirely ignored when so many men of intelligence and high position agreed to give it some weight. Although he did not believe that pure and simple sclerosis of the posterior columns, if there was a distinct pathological lesion of that kind which characterized pure locomotor ataxia, could or ought to be caused by syphilis, still he thought it perfectly possible that meningeal and progressive troubles in the lumbar columns, and disseminated throughout, might be caused by syphilis, and might be attended by signs of locomotor ataxia. He mentioned one case in which there were unmistakable evidences of syphilis, and at the same time the patient suffered from paraplegia, wasting of the muscles of both lower extremities, inability to walk, paralysis of the bladder, etc. Under antisymphilitic treatment the wasting of the limbs and other symptoms of syphilis disappeared, but the symptoms due to the ataxic lesions continued and he died. In another case also, treated for syphilis, the cerebral symptoms due to that disease had disappeared, and since then distinct ataxic symptoms had appeared. He proposed to put the patient upon active treatment. He was inclined to attach some weight to the idea that pre-existing syphilis might be an active factor in the production of ataxic symptoms. He had seen two or three cases greatly improve under the use of iodide of potassium and inunctions of mercurial ointment. One patient took the treatment with the iodide of potassium badly, and a change was made to mercurial inunctions, etc., and he then improved decidedly in the ataxic symptoms and in general health.

Dr. A. McLANE HAMILTON thought a distinction should be made between posterior spinal sclerosis and cerebro-spinal syphilis. In the cases in which there were the classical symptoms of true locomotor ataxia he had not found a history of syphilis in more than twelve per cent. In the irregular ataxic cases, however, in which there were head and speech symptoms, etc., syphilis played an important part, and these patients were greatly benefited by iodide of potassium—if necessary, given in very large doses, two or three hundred grains a day, in a mild alkaline water.

Dr. F. N. ORIS thought we should not ignore the comprehensive statistics, given by different authors, going to show the presence of syphilis in so many cases of locomotor ataxia. His own experience had been comparatively small, but it had led him to believe that locomotor ataxia could be more readily produced in the way in which some syphilitic troubles were produced than in any other way. Looking upon it as a disease of the connective tissue, a sclerosis from cicatrization of connective tissue accumulation, producing strangulation of the nerve-fibers, it would be found that the disease which produced locomotor

ataxia acted exactly as we knew syphilis to do, and in the same order of events. If it were said that antisyphilitic treatment often had no effect upon tabes, it might also be said that it did not greatly affect certain syphilitic lesions which had gone to an advanced stage. He related the case of a patient sent by him to an eminent specialist in diseases of the nervous system, who pronounced the condition undoubtedly one of locomotor ataxia, and advised ergot, and afterward galvanism. As the ergot deranged the digestion, Dr. Otis finally concluded to employ antisyphilitic treatment, and he also divided the constricted meatus. The patient was soon able to walk with scarcely any difficulty, and his bladder trouble almost entirely disappeared in a few weeks. He thought it safe always to try iodide of potassium and mercury, as it was perfectly safe to do so even for diagnostic purposes.

Dr. E. C. SPRITZKA said an important point had been overlooked to-night, namely, that syphilis undoubtedly affected the central nervous axis in its secondary period. He had known it in a few cases—and others had noted the same fact—to abolish the tendon reflex. If syphilis in the secondary stage was capable of producing this effect upon the nervous system, might it not produce the same effect in the tertiary period in the manner in which this symptom appeared in locomotor ataxia? It had been asserted that the lesions of syphilis were characteristic and distinct, and had not been found in locomotor ataxia. He would deny that *in toto*. He believed it to be perfectly well established that syphilitic meningitis differed in no respect from ordinary meningitis, and most recent investigators of the subject also denied that any marked line could be drawn in the lesions of locomotor ataxia. In his private practice, where he could rely upon the statements of his patients, he estimated that two thirds of the cases of locomotor ataxia had a syphilitic history. It had been shown in the discussion to-night that, where there was a history of syphilis, it nearly always occurred some years before the development of locomotor ataxia, and this we should expect, for, if specific disease could give rise to tabes, it would do so in its tertiary stage. Again, locomotor ataxia occurred more commonly in that class of persons in whom syphilis was most frequent, namely, the inhabitants of cities. He was of the opinion that syphilis was the ætiological factor in about one third of the cases of locomotor ataxia.

NEW YORK SURGICAL SOCIETY.

Meeting of March 11, 1884.

ROBERT F. WEIR, M. D., President, in the chair.

SPECIFIC MYOSITIS OF THE GASTROCNEMIUS.—Dr. F. LANGE presented a patient whom he first saw about three weeks ago. At that time there was a tumor in the calf of the left leg. The difference in the circumference between the two calves was at the lower part 12 cm., while at the tuberosity of the tibia it was about 5 cm. Some of the symptoms led Dr. Lange to assume that it might be of a specific nature. He treated the patient accordingly, and the tumor had diminished considerably in size. He intended to present the patient at a future time, in order to see whether the result of treatment would be such as he expected. He regarded it as specific myositis of the gastrocnemius, extending as high as the upper attachment of the internal belly of this muscle, so that it could be traced into the popliteal space behind the hamstring muscles. The initial lesion occurred fifteen years ago. No secondary symptoms followed, but the patient afterward suffered from a rheumatic affection, located particularly in the clavicles and sternum. These so-called rheumatic attacks were repeated often, but were always treated successfully by the internal administration of iodine. There had

never been any affection of the throat or mucous membranes. For a number of years a stricture had existed, which Dr. Lange had located in the prostatic urethra, and it was yielding to the use of bougies. There was also sclerotic thickening of the skin of the pubes, with central depression and peripheral infiltration. The inguinal and other glands, especially the cubital, were enlarged. There was also a deep depression of the skin of the affected calf, but there had not been any ulceration, as the patient stated. Dr. Lange thought probably there had been a subcutaneous gumma, which had undergone softening with subsequent subcutaneous cicatrization. The scar was pigmented, and presented the characteristic appearance of a specific scar. The patient himself traced the origin of the tumor to a small, round nodule, which could be felt beneath the skin five years ago in the neighborhood of the scar, and had gradually increased in size. The treatment had been energetic, consisting of daily inunctions of four grammes of mercurial ointment, and at the same time the patient had taken iodide of potassium and mercury internally, according to Ricord's formula. For about seventeen days the tumor had been diminishing in size, and was now considerably smaller than when the patient first came under observation. At that time the calf was monstrously enlarged and somewhat œdematous, and at its lower portion there was slight redness of the skin with elevation of temperature. While it could be made out clearly that the tumor belonged to the muscular substance of the gastrocnemius, especially in its inner portion, there was still present a slight diffuse thickening of the surrounding parts which made a thorough, distinct palpation of the boundaries of the tumor impossible. The circumference of the calf had already decreased by 5 cm. in the lower part and 2.5 cm. in the upper, corresponding to the tuberosity of the tibia. The tumor itself could be traced more distinctly as a lengthy, hard mass, which was divided into two portions by a slight depression. This relation could only be made out a number of days ago. At no time had there existed any considerable functional disturbance.

He had also seen a gummatous tumor as large as a goose's egg, which occupied the tendon of the biceps femoris, and, under specific treatment, disappeared entirely.

The PRESIDENT said he had seen a similar infiltration in the sterno-cleido-mastoid and also in the coraco-brachialis muscle, but not of equal size. He asked Dr. Lange if any of the methods by which he determined the location of the stricture in the prostatic portion of the urethra embraced the passage of a full-sized sound to the point of obstruction, with a coincident rectal examination, to determine whether the obstruction was in the prostatic urethra. It was the great rarity of the occurrence of stricture in this portion of the urethra that led him to ask these questions.

Dr. LANGE said he had not resorted to the method last mentioned by the President, but that he located the stricture by simply introducing a bougie, which passed in readily up to the point of obstruction, the latter being located so far behind that it must be in the immediate vicinity of the neck of the bladder. The patient for a number of years had noticed a diminution in the size of the stream of urine, which within the last few months had been reduced nearly to a dribble.

RUPTURE OF THE TENDON OF THE QUADRICEPS FEMORIS.—

Dr. W. T. BULL presented a case which had been treated by Dr. Charles A. Jersey. The man was injured on November '22, 1883, by having the leg forcibly flexed. He was seen within ten minutes after the injury, and a dressing of cotton with a posterior splint was applied to the leg. Twelve hours later this dressing was removed. There was slight swelling around the knee joint. The anterior surface of the thigh was ecchymotic almost to the groin, and there existed a well-

marked depression almost two inches above the knee, probably three inches in width. The power of extending the leg was lost. Three long strips of adhesive plaster were passed around the thigh at different points, in a figure-of-eight form, making traction in the direction of the knee, and approximating the two torn edges of tendon. A Canton-flannel roller was applied from the toes to the groin, and a plaster splint from the ankle over all. The thigh was held at almost a right angle to the body during the application of the entire dressing. The leg was left in this appliance for forty days. After the third week the patient was permitted to go about on crutches. At the end of forty days, the splint having become somewhat softened, a new one was applied, the adhesive plaster strips and the Canton-flannel roller not being disturbed. This second splint was left on for twenty-one days, the patient during the last week being permitted to walk about without crutches. At the expiration of this time the entire dressing was removed, a posterior felt splint with a bandage from the toes was worn for one week, and then a rubber bandage was applied, which the patient had worn up to the present time. He used a cane until about the 10th of February. Now, three months and a half from the receipt of the injury, the man had a very useful limb, flexion of the knee being possible to three quarters its normal extent, and extension perfect and strong. There was much thickening of tissue about the seat of injury, but no sign of the defect usually seen beneath the skin after rupture of the belly of a muscle.

He had seen several cases of this injury, and in but one was there finally any power of extension whatever; that was a case in which it existed six months after the injury, and only the fibers of the rectus were torn. As a rule, in an injury of this description, the patient lost the power of extension, and Dr. Bull had been led to regard it as a far worse injury, so far as the functions of the knee joint were concerned, than fracture of the patella. He knew of two persons in whom rupture occurred upon both sides, and both had since been obliged to wear artificial supports to enable them to walk.

Dr. C. T. POORE had had a case in which rupture occurred on the right side, and there was separation to the extent of about four inches. The patient recovered, and was now able to walk without artificial support, had no limp, and could bend his leg, the only apparent defect being that the extensor muscle was not quite so strong as the other. He treated it by the use of a plaster-of-Paris splint, with a strip of adhesive plaster over the course of the muscle to hold it down at the point of rupture. There was ultimately about three inches of new tendon formed.

The PRESIDENT had met with five cases of this injury within the past two years. In only one was the rupture complete, and he was inclined to believe that in the majority of cases the injury was confined to the central tendon, and that in such cases the prognosis was much better in the one torn completely across, which was only seen several years after the accident; there was little or no difficulty in the patient's walking, and no posterior splint was required. All the other cases were treated by the approximation of the divided ends of the muscle by means of strips of adhesive plaster over the thigh anteriorly and fastened below to the sides of the leg, and the use of plaster-of-Paris bandage. He had at present a patient, whom he hoped to show at the next meeting of the society, in whom both quadriceps tendons had been torn across at the same time, and in whom recovery was nearly complete. In all his cases the injury was the result of muscular action.

ON THE TREATMENT OF FRACTURES OF THE PATELLA BY THE PLASTER-OF-PARIS SPLINT.—Dr. JAMES L. LITTLE read a paper with this title. [See p. 345.]

The PRESIDENT asked, in presenting Dr. Little's paper for discussion, what experience, if any, had been obtained by the

members of the society in the treatment of recent fractures of the patella by aspirating the joint for blood effused within it, which had been said to be one of the causes of separation of the fragments. Mr. Heath, of London, and other surgeons, had spoken of this method as being serviceable. In the recent discussions which had taken place in Great Britain, arising from Sir Joseph Lister's notable paper on fracture of the patella, the point had been made that one of the reasons why bony union did not take place in fracture of the patella was that little fragments of fibrous tissue were caught between the ends of the broken bone. Macewen, of Glasgow, also alluded to this fact, having proved it in one or two dissections. If aspiration allowed the fragments to be apposed, it would seem to be sound surgical practice, in order to get rid of this small amount of interposed fibrous tissue, to rub the fractured surfaces briskly together for a few moments before applying a splint.

Dr. H. B. SANDS doubted whether, in average cases of fracture of the patella, marked superiority could be claimed for any single method of treatment, all methods being more or less imperfect. The treatment recommended by Dr. Little resembled very closely the common one, which consisted in placing the limb upon a straight posterior wooden splint and applying straps of adhesive plaster obliquely above and below the fragments. He had for many years believed that the extent of primary separation of the fragments depended mainly on two causes, namely: laceration of the fibrous tissues, and distension of the knee joint with blood or inflammatory effusions. He deprecated the premature and forcible attempts often made to approximate the fragments while the joint was distended, believing that such treatment was liable to increase their separation by causing further effusion. He quite agreed with Dr. Little in recommending that, until the subsidence of the swelling, treatment should be restricted to rest of the limb in an extended position, the use of some evaporating lotion, and, when necessary, moderate pressure by means of a flannel or elastic bandage. He remembered having read, many years ago, of cases treated in St. Bartholomew's Hospital by simply placing the limb at rest in a straight position upon a posterior splint. Approximation of the fragments occurred spontaneously when the swelling subsided, and very good results were obtained, the uniting medium, although ligamentous, being generally very short. It seemed to him that by the method recommended by Dr. Little, although good results would often be obtained, there might sometimes be found a liability to a tilting of the fragments. Dr. Sands had endeavored to obviate this difficulty by resorting to a method practiced by many surgeons, in which strips of moleskin adhesive plaster, attached to the limb above and below the seat of fracture, were brought together and fastened by a buckle directly over the broken bone. Of course, it was presumed that, when Dr. Little spoke of approximating the fragments, he meant an approximation of the upper to the lower fragment, as no amount of force was capable of stretching the ligamentum patellæ. Dr. Sands had also, in some cases, resorted with advantage to Malgaigne's hooks, the points of which were prevented from penetrating the skin by the interposition of several layers of thick adhesive plaster. This practice, he believed, originated with the late Mr. Spence. He was a little doubtful whether, in bad cases of fracture of the patella, attended with great separation of the fragments, any treatment would produce good results short of a surgical operation. He was convinced, however, that, in a majority of cases, many forms of apparatus could be used which would enable the patient to obtain a useful limb.

Dr. BRILL said, with regard to the plaster-of-Paris bandage as distinguished from the plaster-of-Paris splint in the treatment of this fracture, that he thought Dr. Little had expressed himself adversely to the plaster-of-Paris bandage a little too strong

ly. It had certainly been thoroughly tested in New York hospitals, and was now generally used in a number of institutions, and he thought the results obtained did not justify the expression that it might be justly condemned. With regard to this application in the treatment of fracture of the patella, it was the only apparatus which he had used. He had regarded it as the simplest form of apparatus that would keep the knee absolutely still, and one which was more easily applied than the apparatus described by Dr. Little. Before applying the plaster bandage he always drew the upper fragment down as far as possible with the hand, and held it there by means of a single strip of adhesive plaster, while a second strip served to steady the lower fragment. He had met with a good many cases of fracture of the patella during the last six or seven years, and he had yet to see one in which the upper fragment could not be approximated to within one fourth to one inch of the lower fragment within a certain time. He said a *certain time*, because this period varied a great deal according to the quantity of effusion into the joint. He had seen two cases in which the upper fragment could be drawn down directly, and there the plaster splint was applied within a few minutes and allowed to remain until the bone had united by ligament. He had not seen any cases in which the union was entitled to be considered as bony union.

It had been suggested some years ago that the disappearance of the effusion could be accelerated by aspiration, and Schede had proposed puncturing, washing the joint out, and then treating the puncture with antiseptic dressing. Dr. Bull had had no experience with the latter method, but he had tried aspiration in two cases. In both he aspirated the joint twice, because the first operation did not facilitate the approximation of the fragments, although a small quantity of bloody serum was withdrawn. The second aspiration was about as futile as the first. He had almost reached the conclusion that the best method was to allow the effusion to subside, aiding absorption only by firm compression, such as could be made by a firmly applied cotton dressing over the entire limb (laid on a Volkmann's splint). He had resorted to that measure where there was a good deal of effusion, and at the end of a period varying from five to ten days the upper fragment had been approximated within one quarter to one inch of the lower one with great facility. With such a ligament, if not stretched by flexing the joint too early, the joint functions would be satisfactory.

It seemed to him that no one who had had experience in the use of the apparatus recommended in Hamilton's "Surgery" would wish to use it a second time, because it required constant attention, and the bandages must be renewed every day, or at furthest every second or third day. While he believed the apparatus described by Dr. Little was certainly safer for surgeons not experienced in the use of plaster of Paris in the shape of a bandage, he thought the plaster bandage safe enough for any man who had had reasonable experience in the application of bandages in general to the extremities.

Dr. LANGE had observed a number of cases in which separation of the fragments existed years after the injury, varying from an inch and a half to two inches and a half, and in which the limbs were entirely useful, the power of extension was complete, and the patients were able to go up and down stairs without the slightest discomfort. He had treated a number of such cases, and among them were two in which fracture of the patella took place several times, besides one in which separation of the tendon of the quadriceps took place where a gap existed now sufficiently large to allow of the interposing of the hand, yet without functional disturbance of the leg. It seemed to him that after a time the lateral part of the capsular ligaments took up the function of the muscle to a certain extent.

Dr. GEORGE A. PETERS had seen one case of fracture of the

patella with separation of the fragments to the extent of two inches, and the patient had perfect use of the limb and was even able to skate.

Dr. BULL said Dr. Little had justly emphasized the fact that bony union was not necessary for a useful limb, a fact frequently overlooked by those who had advocated wiring of the patella. He knew of one policeman and one fireman, who at the present time were on active duty, who had ligamentous union of a fractured patella. In one case the ligament was about an eighth of an inch long at the first, but it gradually lengthened until the fragments were separated to the distance of one inch, and yet the man was not aware of the fact.

Dr. POORE asked if the question of ability to walk was not one of ability of the patient to use the muscle attached to the ruptured tendon. He thought the disability consisted not so much in the separation of the fragments as in the weakness of the muscle which was attached to the upper fragment, and that the difficulty in walking was due to the impossibility of the patient's getting accustomed to use the shortened muscle.

Dr. LITTLE said that the lower strip of plaster in his apparatus was simply to steady the lower fragment, while the upper fragment could be brought into the closest approximation. With regard to the difficulty in walking with a long ligamentous union, he thought a distinction should be made between the power of extending the leg and the ability to walk. Patients with a long ligament uniting the fragments were often unable to make complete extension of the limb, but they were able to walk without difficulty. In a recent case, where he applied his splint at the Post-Graduate School, Dr. Powell, who had the case in charge, assured him that he found the patient the day after the accident walking about her room with the aid of a cane.

About a year ago Dr. Stinson had presented a case before this society in which the patient had had each patella torn from its ligament, and no union had taken place. This man could not extend his legs, but was able to walk about with but little difficulty.

Another point of interest in connection with fractures of this bone was the liability of the opposite patella to suffer from a similar injury. He had seen a number of cases of this kind. In all these fractures were caused by muscular action. This was generally attributed to the greater strain upon the sound bone and the greater liability of the patient to fall. In two cases which had come under his notice the patients had told him that they had suffered a certain amount of pain in each patella before the fracture took place. He had never seen a patient in whom the fracture was caused by direct violence who afterward suffered from a fracture of the other patella. It was possible that the true explanation of these cases was that they were caused by an abnormal condition of the bone at the time of fracture. The slight amount of force which caused the fractures in both of these cases, and the pain in the bone felt before the occurrence of the injury, would seem to point in that direction.

Dr. BULL asked Dr. Little with regard to passive motion and the advisability of resorting to it, as mentioned in his paper.

Dr. LITTLE said he had simply quoted Dr. Hamilton.

Dr. BULL said he had always felt that it was not the right thing to resort to passive motion. One should always aim to obtain a short and very strong ligament, and he had always abstained from allowing the patient to move the knee joint for at least ten or twelve weeks; and by the end of the eighteenth or twentieth week the movements had been satisfactory, and the joint had been strong.

TRAUMATIC RUPTURE OF THE TRACHEA.—Dr. LITTLE presented a trachea removed from a man sixty years of age, who had died in St. Vincent's Hospital, having been struck in the neck

and upper part of the sternum, on Saturday last, by one of the shafts of a truck. When he first saw the case, five hours after the injury, he found the patient emphysematous from the head to the lower part of the abdomen. There was considerable ecchymosis over the sternum, but no difficulty in breathing, and no cough. There was pain on pressure over the upper part of the sternum and over the trachea. There had been slight expectoration of blood before the man entered the hospital. The emphysema was greater over the chest than elsewhere, and less about the neck. Injury of the trachea was suspected, and the patient was anesthetized and a careful examination was made over the trachea and larynx, but no injury of these parts could be detected. As there were no symptoms of suffocation, it was thought best not to perform tracheotomy. The patient gradually sank, however, and died this morning, sixty hours after the injury.

There had been considerable cyanosis during the last twelve hours, but no symptoms of suffocation. The autopsy showed a complete separation of the fourth and fifth rings of the trachea, with signs of recent inflammation and hemorrhage in the surrounding tissues. Double hypostatic pneumonia and pleuritis also existed.

FLOATING CARTILAGE IN THE KNEE JOINT; REMOVAL.—Dr. LITTLE also presented a specimen of floating cartilage which he had removed from the knee joint of a patient who had come under observation three weeks ago, having suffered from slight pain in the knee for ten years. About six weeks ago he noticed symptoms for the first time indicating the presence of a loose cartilage, and, on examination, a movable body was discovered, which was quite prominent. On the 28th of February last Dr. Little removed it under strict antiseptic precautions. The operation was performed as follows: A bandage was applied from the leg to a point just above the patella, so as to keep the loose cartilage in the upper part of the joint. It was then "fixed" at a point on the outer side of the joint by a strong acupressure needle passed through the tissues. An incision was made, and the cartilage was removed by a pair of bullet-forceps. The edges of the wound were brought together by two catgut sutures, the wound of the synovial membrane not being included in the sutures. A compress of iodoform gauze and a full Lister dressing were applied. The patient did well until the morning of the fourth day, when he had a chill and a sudden rise in temperature (to 102° F.). On removing the sutures, about half an ounce of pus escaped from the wound. The synovial cavity was found to be slightly distended, but no fluid could be pressed from the joint through the wound. Believing that the collection of pus was external to the joint, Dr. Little reapplied the dressing, in a few hours the temperature subsided, and in forty-eight hours the effusion disappeared from the joint and the patient made a rapid recovery.

Dr. BULL had removed three of these cartilages. In two cases he put in no sutures, and the result was satisfactory. In the third case he used sutures, and the man had a very troublesome effusion which lasted for six months, coming and going. He employed catgut sutures, and they were introduced through the capsule.

Dr. SANDS had performed within the last six months three operations upon the same patient, the right knee being operated upon twice and the left knee once. In each case the operation was performed in the same way, the joint being directly incised, and the edges of the cutaneous wound being united by a suture after the removal of the floating cartilage. Bichloride solution was the antiseptic employed, and peat was used as a dressing. In all the cases primary union took place without rise of temperature and without effusion into the joint.

Dr. A. G. GERSTER had also had occasion to operate upon

three patients, in two of whom there were three movable bodies, one of which could be proved to have been chipped off from the tibia; the second was a smooth, almond-shaped body, the origin of which could not be ascertained; and the third he was obliged to manipulate for considerably, and it was found that several small bodies were attached by pedicles to the ligamentum alare, near the inner margin of the patella. These growths had to be extirpated from their attachments, and it became necessary to tilt up the patella and expose its lower surface for this purpose. In all three cases the joint was washed with a five-per-cent. carbolic-acid solution, it being before the advent of the bichloride solution. In all the cases a supporting suture was applied through the capsule, and after that skin stitches were introduced, and in every case a drainage-tube of small caliber was left in the joint for the purpose of removing as much effusion as might take place, but this tube was removed on the fourth day. In all the cases the dressings were antiseptic and the recoveries were uninterrupted.

THE PRESIDENT had an instance brought to mind by Dr. GERSTER's last case, namely, the presence of fatty growths in joints. Last autumn he cut into the knee joint for the removal of a loose cartilage situated to the inner side of the patella, movable in various directions, but attached somewhere in the region of the patella, and of about the size, as felt through the skin, of the end of his little finger. On reaching it, it was recognized as being not of the usual cartilaginous formation, but softer, and it proved subsequently, on microscopical examination, to be fibrous tissue with fat. It was analogous to the fatty growths which Barwell had described and had removed successfully from the knee joint. Volkmann also spoke of similar troubles in the same joint. In his case considerable manipulation of the joint was resorted to in the removal of the foreign body, and, although all antiseptic precautions were used, the wound and joint being washed out with sublimate solution 1 to 5,000, and a drainage-tube inserted, the case did badly, and suppurative of the joint and of the tissues about the articulation took place. Septicæmia developed, making it necessary to amputate the thigh, which was done after Neuber's method, with rapid healing. The process of inflammation had, however, so destroyed the tissues of the joint that he was unable to demonstrate anything further concerning the connection which this peculiar formation had with the joint itself, though it was evidently a hypertrophy of the sub-patellar fatty tissues.

He had also since met with one other case of this kind, but he did not operate upon it. He saw last week at his college clinic a woman about fifty years of age who had had symptoms of floating cartilage during the last twenty years. The body was quite large, and was situated at the inner and upper aspect of the joint, and, from the symptoms and from the attacks of its catching between the articular surfaces, he assumed that it was attached by a somewhat long pedicle. The patient was unwilling to have an operation performed, because she suffered but little and the permanent joint damage was not marked. The special point of interest in the case was the rather long time for such a difficulty to have existed without serious impairment of the joint.

Dr. GERSTER asked Dr. Little if he applied a posterior splint after his operation.

Dr. LITTLE said he had neglected to state that he applied a posterior splint after the operation, so that the joint was kept perfectly quiet.

THE PRESIDENT had always employed a splint, and also used firm compression after opening the knee joint.

Dr. SANDS said that in his three cases the limb was placed upon a posterior splint after the operation, and the dressing was not removed for two weeks.

Dr. BULL said that in all his cases he had used the typical Lister dressing and a posterior splint.

Dr. GERSTER said that he also had applied a splint in all his cases.

EPITHELIOMA OF THE LARYNX.—Dr. CHARLES MCBURNEY presented a specimen with the following history: It was removed from a male patient, fifty-nine years of age, who first exhibited symptoms of disease four months ago, the first being a small swelling in the right side of the neck, beneath the angle of the jaw, but it was not until the end of January that any dysphagia was noticed, and there was no dyspnea. When he came under Dr. McBurney's observation in February, the man had a large tumor on the right side of the neck, extending from the angle of the jaw nearly to the clavicle. He was able to speak with quite a clear voice, complaining scarcely at all of difficulty of swallowing, although at times there was some difficulty in swallowing solid food. On examination with the laryngoscope, Dr. McBurney was able to see a large mass apparently filling the entire lumen of the larynx, and the appearance was such that he was unable to account for the excellent voice. He had no means of determining the extent of the growth, although its appearance indicated that it extended down the oesophagus. The patient died on Friday last. He swallowed fairly well up to that time, although there had been steadily increasing dysphagia. The voice remained very good until death. The specimen showed that the true vocal cords were entirely unimpaired.

Dr. McBurney also presented the specimen removed from the neck, which was probably carcinomatous, although the microscopic examination had not been completed. The most interesting feature, perhaps, was the condition of the artery seen upon the back of the specimen, where, near its bifurcation, endarteritis obliterans was apparent, and the vessel just above was firmly attached to the tumor. There was no direct positive union of the two tumors, but he inferred that the laryngeal was the original growth, and that the tumor in the neck was secondary, and one which began in the lymphatic glands.

EPITHELIOMA OF THE CERVIX UTERI; EXTIRPATION OF THE ENTIRE UTERUS THROUGH THE VAGINA; RECOVERY.—Dr. BULL presented the uterus, which was the seat of cancer involving the greater part of the cervix. It was removed, by the vaginal method, on the 17th of February, 1883, from a patient forty-five years of age, who had had symptoms of uterine cancer one year previous to admission to the hospital. At the time of admission the growth formed a large cauliflower excrescence at the upper part of the vagina, and apparently did not involve the body of the uterus. She had not received any treatment. The urine had a specific gravity of 1.020, was acid, and contained a little albumin and a few hyaline casts. The uterus was removed by Czerny's method without difficulty, although the operation was laborious and long, from the care required to dissect the expanded cervix from the base of the bladder. The broad ligaments on either side were secured with two carbolized-silk ligatures and cut between them. The peritoneal wound was loosely held together with four or five silk sutures. Just before the sutures were introduced a mass of intestine or omentum could be seen at the bottom of the wound. In passing the sutures through the peritoneum, hemorrhage occurred from one of the broad ligaments, which was controlled by the hæmostatic forceps, and it was necessary to leave the instrument in position. The wounded surfaces were dusted lightly with iodoform, the vagina was packed with small iodoform peat-bags, and the vulva covered with borated cotton. There was but slight reaction, and at the end of five days the first dressing was made; while there was more or less discharge, there was no evidence of decomposition whatever. At that time the hæmostatic forceps was removed. The further progress of the case was rapid. At

the end of one month the patient was able to sit up, and soon afterward left the hospital. For eight months afterward she continued in very much better health than she had enjoyed for years previous to the operation, and believed herself to be cured. There remained, however, a small spot at the top of the vagina which was not disposed to heal, although her general condition was quite good. About nine months after the operation there appeared a hard nodule on the posterior vaginal wall, which was removed with the curette, together with the small spot previously noticed. For a month afterward the condition of the parts remained unchanged. From the tenth month after the first operation up to the present time the patient's health had slowly declined, and now, nearly thirteen months after the first operation, she was worse than at the time she first entered the hospital. She had a pelvic tumor of about the size of a child's head, and had the distressing abdominal symptoms which usually accompanied this condition. Yet there had been no offensive discharge from the vagina, nor hæmorrhage.

In two other cases he had attempted the same operation, but had been unable to get the uterus out with safety, and had simply contented himself with the effort to remove as much as possible, after dissecting the tumor from the bladder and rectum, without opening the peritoneal cavity. Both patients recovered rapidly from the operation, and, though in one the cul-de-sac of Douglas was accidentally opened, he thought the operations had been of much benefit to the patients, especially with reference to getting rid of the offensive discharges and hæmorrhages which almost invariably accompanied cancer of the uterus. One woman, who had had several hæmorrhages before the operation, went six months without any bleeding or abundant discharge, and died a year afterward. The other had been operated on but a few weeks ago.

Dr. LANGE said he had presented to the society one patient from whom he had extirpated the uterus totally for sarcoma two years ago. About six weeks ago he saw the patient, and she was apparently entirely healthy. In two other cases in which he had performed the supra-vaginal amputation, one for a very large myxo-sarcoma, and the other for a large fibroma, the patients were still quite well; one sixteen months, and the other nine or ten months after the operation.

SARCOMA OF THE KIDNEY.—Dr. LITTLE presented a specimen which he had removed at St. Luke's Hospital by operation, on September 11, 1883, from a girl four years old. According to the mother's statement, the child's abdomen had been swollen and hard from birth. One month previous to her admission this enlargement began to increase rapidly. On examination, the abdomen was found to be greatly distended, very tense, and fluctuating, and the subcutaneous veins over the surface were enlarged. The enlargement of the abdomen was so great that it prevented the child from walking or standing. There was marked dullness on percussion over the right side of the abdomen, extending several inches beyond the median line. From this point it was tympanitic. A distinct tumor could be felt occupying the entire region of dullness, extending upward to the margin of the ribs. There was no œdema of the feet. The urine was normal, and the child's general health was good.

On September 15th the tumor was aspirated, and about eight ounces of a dark-red fluid were removed. On examination, it was found to contain blood globules, but no further evidence as to the character of the disease was revealed. A consultation was held, which resulted in a diagnosis of a cyst, probably connected with the kidney (hydro-nephrosis), and an exploratory incision was advised.

On September 25th Dr. Little performed the following operation under strict antiseptic precautions: He opened the abdominal cavity by an incision two or three inches long, between

the umbilicus and pubes, which was subsequently enlarged. A considerable quantity of fluid at once made its escape from the abdominal cavity. The tumor was found situated beneath the posterior layer of the peritonæum, extending from the pelvis up to the border of the ninth or tenth rib, and overlapping the spinal column. A large trocar was passed into the most prominent part, and nearly two quarts of a dark-colored fluid were removed. It was then found that the upper portion of the tumor was solid. The peritonæum covering the tumor was then opened and the growth was carefully enucleated. Its upper part was found to be in such intimate connection with the kidney that it was necessary to remove that organ. A ligature was passed around the renal vessels, and the whole mass was removed. The hæmorrhage during the operation was not great, and was readily controlled. The peritonæum was closed by catgut, and the abdominal wound by silver-wire sutures, and Lister's dressings were applied. The condition of the patient during the latter part of the operation was very feeble, and, although every means to bring on reaction were used, she died from shock about half an hour after the completion of the operation.

Microscopical Examination of the Tumor, made by Dr. FRANK FERGUSON:

"*Small-round-celled Sarcoma, with Cysts.*—The tumor arises from the anterior aspect of the lower end of the right kidney. Its shape is spheroidal, and it measures six inches in diameter. It is surrounded by a fibrous capsule rich in small, round, and spindle-form elements, and continuous with the capsule of the kidney. There are numerous cysts of various sizes throughout the tumor, into some of which hæmorrhage has occurred; but, as a rule, their contents are a clear, serum-like fluid rich in albumin, and a few of the small-round cells of which the tumor is composed. In these cysts are also found kidney tubules and glomerules. Kidney structure is also seen throughout the tumor. The cells which compose the tumor are supported by a delicate frame-work of fibrillated material, and the entire tumor is rich in its vascular supply. The kidney is slightly larger than in subjects of this age, and, on microscopic examination, normal in structure beyond the line of invasion of the morbid growth."

Miscellany.

THERAPEUTICAL NOTES.—*Iodoform as a Palliative for Cancer of the Cervix Uteri.*—M. Castré (Thèse de Paris, July, 1883; "Bull. gén. de thérap.," Feb. 29, 1884) recommends a special perfumed preparation of iodoform as a palliative application in cases of cancer of the neck of the uterus, being the method of treatment devised by M. Gillette. The mixture is composed as follows:

Iodoform	18 grammes (about 270 grains);
Sulphate of quinine.	3 " (" 45 ");
Powdered charcoal.	15 " (" 225 ");
Essence of mint (? peppermint),	40 drops.

Thus prepared, the iodoform may be added to ordinary liquid excipients, but, to avoid its coming in contact with the sound vaginal mucous membrane, the author recommends its use in the form of the powder, applied on tampons of cotton, which are introduced with the aid of a speculum. It is said to be important not to try to cleanse the ulcerated surface before making the application, as the iodoform will do that of itself. The period between the applications may vary from four to ten days.

Iodoform in the Treatment of Aphthous Inflammation of the Vulva.—M. Surazin (Thèse de Paris, July, 1883; "Bull. gén. de thérap.," Feb.

29, 1884) remarks that this affection rarely ends in gangrene if treated with iodoform. Powdered iodoform should be dusted on in a thick layer daily, without any attempt to cleanse the parts, and then a little lint be interposed between the labia. The vulvar affection heals rapidly under this treatment, but when the perineum is likewise affected, although the treatment is equally effective, it is slower.

The Treatment of Acute Delirium.—A writer in the "Union médicale" gives the following summary of the treatment of acute delirium as recommended by M. Ball and M. Chambard: See that the light in the room is moderate, and that the patient is freed from every occasion for excitement or agitation. Give him baths of a moderate temperature during the early period of the attack, and belladonna during the second period. In the asthenic forms of acute delirium, tonics of various sorts should be given, especially the preparations of cinchona in tolerably large doses. Redden the skin by means of sinapisms, mustard foot-baths, and frictions with a harsh brush; act on the bowels with purgative enemata. If the patient refuses food, resort to nutritive injections, and to M. Fernet's procedure, which consists in introducing the tip of a small spoon, made for the purpose, into the nostril, pressing it back gently, and allowing the liquid food to run from it into the nostril, from which it will follow the inclined plane of the nasal fossæ, and fall directly into the pharynx, so that it will be swallowed whether the patient will or no.

Sulphate of Copper as an Antiseptic in Midwifery.—M. Charpentier ("Gaz. hebdom. de méd. et de chir.," March 7, 1884) recently reported to the French *Académie de Médecine* a series of experiments that he had made with sulphate of copper as a preventive of putrefaction, the results of which had convinced him that, in a solution of one part of the salt in one hundred parts of water, the agent was a trustworthy and harmless antiseptic. He had therefore used it as a vaginal and uterine injection at the *clinique d'accouchement*, where there had been no deaths since the 15th of June, whereas for the preceding six months, in the service of the late Professor Depaul, there had been twelve deaths from septicæmia in three hundred and ninety-seven cases of confinement. This happy change M. Charpentier imputes to the use of the sulphate of copper. He urges in favor of this agent that it is perfectly safe, very cheap, easily managed, and an instantaneous disinfectant as well as a powerful antiseptic; also, that its astringent and coagulating properties are such that it may perhaps in the future take the place of perchloride of iron as a hæmostatic, over which it has the advantage of not clogging wounds. The solution should be used warm, of the strength of one part to one hundred. In a number of cases of large thrombus of the vulva the use of this antiseptic was followed by recovery without the formation of a drop of pus, and in a case of foul abscess of the urethro-vaginal septum it overcame both the fætor and the symptoms of putrid infection at once, after carbolic acid had failed.

Nux Vomica and the Mineral Acids in the Treatment of Diabetes.—Dr. S. Wilks, of London ("Med. Times and Gaz.," March 8, 1884), reports three cases of diabetes treated with the use of nux vomica at Guy's Hospital. In all of them the patients gained in weight, and gave other evidences of improvement, although one of them died suddenly some time after leaving the hospital. Dr. Wilks remarks upon the beneficial action of these remedies on the digestion, but he thinks that this action is not sufficient to explain their manifest good effect in diabetes. He is persuaded that, over and above their action on the digestive apparatus, they have a positive effect upon the glyco-genic function. The three patients whose cases are reported were put upon the use of anti-diabetic diet.

THREE REMARKABLE PRESCRIPTIONS.—According to the "British Medical Journal," the following prescription was sent to a druggist "in America": "Gummi camfor, I ownze; lodnom, I ownze; kloryforme, I ownze; oil sassyfras, I ownze." Also this: "Srip of squills, parygaric, oyl of amonds, bolsom pavia, swet sperrit nighter. Give baror a cannl (calomel) powder for agnone persien." A correspondent of the "Lancet" writes a prescription as follows: "R Infusi foliorum rescutium saxifragæ, ℥ iii. [Faciat, ex aquâ calidâ, xviij. Fiat, per horas sex; foliorum i, aquæ x.] Glycerini, ʒi. Misc. Fiat injectionem, ut bis die utendum."

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884.

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE III, PART I.

Some Points in Encephalic Anatomy which are not Infrequently Overlooked or Misunderstood.

As announced in the first lecture, the third comprises two parts, dealing, respectively, with (a) certain facts in encephalic anatomy, and (b) methods of illustration and description.

In the choice of anatomical matters, three objects have been kept in view: a. In general, the illustration of the methods described in the earlier lectures; in particular, b. The elucidation of cælian circumscription; and c. The correction or qualification of statements or figures in two English manuals of descriptive anatomy, Quain's and Gray's.*

If any are startled at the intimation of possible imperfection in works to which students refer with confidence, and upon which, it is to be feared, some teachers too implicitly rely, they have only to compare the accounts of the brain in any two similar anatomical treatises, or in different editions of the same. In Quain, for example, so great are the textual and pictorial improvements of the edition of 1882 over that of 1877 that our admiration for the excellence of the one is qualified both by surprise at the defects of the other and by fear lest still further change may be required.

In respect to the macroscopic anatomy of the brain, the shortcomings of the two admirable works above named may be treated as: a. Omissions; b. Inaccuracies; c. Statements or figures liable to cause misconception.

Omissions.—*Bulbus Postcornu*.—As shown in Figs. 44 and 45 (this journal, March 1st), the mesal wall of the postcornu presents not only the calcar, but also, just dorsad of it, an elevation which Henle calls *Bulbus cornu posterioris* (p. 168, Figs. 91–93). It is not mentioned in the last edition of Gray, and in the last of Quain (ii, 346) it is for the first time described but not figured.†

* These works are also edited and republished in America, and are so commonly employed that to confine criticism mainly to them will imply no invidious distinction. Still less does the offering of these criticisms imply upon the part of the critic either an assumption of freedom from error or any unwillingness to be called to account therefor.

† Were I not desirous of showing that progress both has been made and is yet to be made, I should refrain from calling attention to this particular instance. The elevation in question was first observed by me in a brain the cœliæ of which had been injected with alcohol. Having at hand just then neither Henle nor the last edition of Quain,

In view of the obvious relation of the postcornual bulb to the splenium, a constant part, the infrequency of its mention may fairly be ascribed not to its own inconstancy, but to the inadequate preservation of the cælian parietes and the haste with which they are commonly examined.

Cauda Striati.—That the human striatum is prolonged as a slender "tail" following the remarkable curvature of the medicornu and terminating at or near the tip of the latter is indicated in Cuvier's "Leçons d'anatomie comparée," in the editions of 1800–1805 and 1836–1846. The description is in part as follows:

"Ils [les corps cannelés ou striés] se terminent par une queue qui suit exactement le contour de la couche optique et de la racine du nerf du même nom, et ils se terminent en dessous par un élargissement obtus, en sorte que chaque corps cannelé représente un fer-à-cheval, dont l'une des branches serait beaucoup plus grosse que l'autre. Dans la position naturelle du cerveau, ce fer-à-cheval est placé de champ, de manière que la grosse branche est en haut, et un peu plus en avant et dedans que l'autre." (A, iii, 51.)

This feature of the striatum is also described and figured by Reichert (Figs. 31–34), Meynert (Stricker, 681–683, Fig. 256), also, as stated by Dalton (I, 11), by Gratiolet, Todd, and Hirschfeld, and more recently Dalton himself in the paper just mentioned.

In Quain (ii, 351) the *cauda* is described as "passing nearly to the extremity" of the medicornu, but it is not distinctly shown in the figures. In Gray its existence is not recognized at all.

Cimbia (*Tractus peduncularis transversus*, Gudden).—In many mammals there crosses the Crus cerebri, between the pons and the Tractus opticus, a more or less distinct

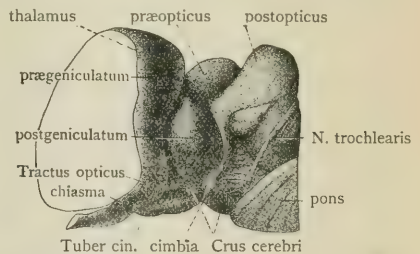


FIG. 46.—LATERAL ASPECT OF THE LEFT DIEN (THALAMUS, ETC.) AND MESEN (OPTIC, ETC.) OF THE CAT; × 25. DRAWN BY PROFESSOR CLEAVES.

The dorsal end of the *cimbria* is made too distinctly continuous with the postopticus. Some of the fibers seem to pass between the præopticus and the thalamus. The root of the *N. oculo-motorius* should be shown just caudad of the ventral end of the *cimbria*.

fibrous fasciculus. It is constant and very distinct in the cat (Fig. 46), where its ventral end crosses just cephalad of

I rather hastily concluded that it was an undescribed feature, and, at the meeting of the American Neurological Association, in June, 1883, showed the preparation and photographs of it, and proposed for it the provisional name *Eminentia splenialis* ("Journal of Nervous and Mental Diseases," July, 1883, p. 85), based upon the obvious fact that it represents certain splenial fasciculi; this name must be withdrawn in favor of *Bulbus postcornu* until it be ascertained to have received a still earlier and equally appropriate name of a single word.

the root of the *N. oculo-motorius*, and dips suddenly into the substance of the crus.

Even if Henle is correct in stating (p. 148) that this fasciculus is only exceptionally present in man, some reference to it should be made in compendiums like Gray and Quain.*

Even in the cat the *cimbria* might escape notice if the brain were poorly preserved or transected in the usual way. In order to expose it, the corresponding hemisphere must be carefully dissected off with a sharp and narrow-bladed scalpel. In a series of microscopic sections it might, of course, be detected, and even in a macroscopic section which happened to coincide with its direction for any distance, or to divide the part of the crus into which the ventral end abruptly dips.

Striæ longitudinales callosi.—Here may be noted the lack of recognition, not only in the works above named, but in all others that have come under my notice, of the easily determined relation between the anterior cerebral arteries and the furrows and ridges along the meson of the dorsal surface of the callosum. Whether or not the pressure of the arteries is the sole cause of the two parallel furrows and the three corresponding ridges (*Striæ longitudinales*, *Nervi Lancisii*, etc.), the arteries lie in the furrows in all the brains examined by me in which the latter are distinct. Preparations illustrating this relation were shown at the meeting above mentioned, and are referred to in the journal there cited.

Inaccuracies.—Under this head may be embraced errors which are comparatively trivial, which have no direct bearing upon larger questions of morphology or physiology, but which deserve attention, both because they go to make up descriptive anatomy and because, so long as they remain—on the principle *falsus in uno, falsus in omnibus*—distrust of other matters may be entertained.

"Centrum ovale majus."—The name is placed in quotation marks in order to indicate at the outset the fact that what is commonly understood thereby has no real existence. Not only in Quain and Gray, but in nearly every anatomical treatise published during the last hundred years, the following statements are expressed or implied, either in words or in figures, or in both: "When the dorsal portions of the cerebral hemispheres are removed by a section coinciding with the dorsal surface of the callosum, the latter forms, with the cut surface of the hemispheres, a continuous and unbroken area of alba (white or medullary substance), bordered by the convoluted cinerea (gray substance, cor-

tex) of the gyri. This area is the *centrum ovale majus*, to distinguish it from the *centrum ovale minus*—the area of alba bordered by cinerea which is seen when either hemisphere is sliced at some distance dorsad of the callosum."

The current descriptions involve two points:

1. Excepting at its ends, a line coinciding with the dorsomeson of the callosum is approximately straight, so that there is no choice as to the part which the plane of section is to reach.

2. A straight line, coinciding with the dorsomeson of the callosum, and extending laterad through both hemispheres, lies at all points dorsad of the procelia, so that the latter is not opened by the section described.

The facts are, however: 1. The dorsomesal line of the callosum is not straight, but curved throughout its whole length, so as to necessitate a choice of the parts with which the plane of section is to coincide. 2. A horizontal straight line drawn laterad from most points in the dorsomeson of the callosum will intersect the procelia, so that the latter is exposed by the section described.

So far as I know, this error was first corrected by Dalton. In the course of a description of some macroscopic sections of the brain before the New York Academy of Medicine, March 6, 1879,* Dr. Dalton stated that "the *centrum ovale* (majus) as represented in the books did not exist, and was a picture of the imagination. The reason was that the corpus callosum, instead of being a plane, was an arched commissure, and it was impossible to make sections which would show what the books illustrated."

As shown in Fig. 43 (this journal, February 23d, p. 209) and Fig. 47, representing adult brains hardened within the cranium, the callosum is not only arched, but arched both ways. The genua and splenic ends are lower than the intermediate portion, and the lateral portions are higher than the mesal. It may be compared to an inverted saddle. The relative levels and thicknesses of the mesal and lateral portions are such that the lower surface of the latter is higher than the upper surface of the former, and the two procelian cellæ are opened by a section such as is usually described.

Did space permit, and were the matter of any special intrinsic consequence, it would be interesting to consider in detail the treatment of the "*centrum ovale majus*" by different authors.† The following summary of possible explanations of the almost universal acceptance of it may also serve to account for the origin and perpetuation of some other anatomical myths:

1. It is not impossible that an exceptional brain may present the condition commonly described.
2. When the section is in a plane coinciding with the cephalic or caudal slope of the callosum, the procelia may not be opened thereby.
3. The plane of section may not be *at* but only *near* the dorsal surface of the callosum.
4. As ordinarily prepared, the brain is greatly flattened,

* As reported in the "Medical Record," April 19, 1880.

† Among the very few anatomical treatises in which it is not mentioned is that of Harrison Allen.

* Repeated observations and preparations of this fasciculus in the cat had been made by me before my attention was called to the few works and papers where it is mentioned (Izzani & Lemoigne, Gudden, Fovel, Henle, Schwalbe, and Stricker), and I had given to it the name *cimbria* (in architecture, a band or fillet about a pillar) before Gudden's name was known to me (*J. 9. 1-4*, and Wilder and Gage, 475, Pl. II, Fig. 4; Pl. III, Fig. 9, 11, "*emb.*"). As will be discussed in the latter part of this lecture, the substitution of the single brief term *cimbria* for the prior *Tractus peduncularis transversus* may be advisable, if the part in question proves to be of considerable morphological or teleological importance.

Since the foregoing went to the printer, I have received Seguin's "Gudden's Atrophy Method," etc. (*J.*), stating that the *cimbria* was first described and figured by Gall and Spurzheim, in 1810.

and the distortion may affect the relative levels of the callosum and proccelia in the way described.

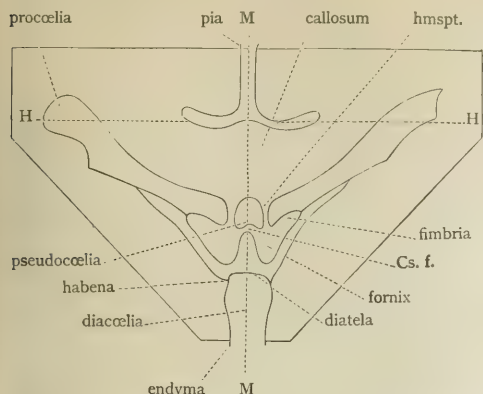


FIG. 47.—OUTLINE DIAGRAM OF THE CEPHALIC ASPECT OF PART OF A TRANSECTION OF AN ADULT HUMAN BRAIN AT THE MEDIODORSAL COMMISSURE. Showing (a) the thickness of the *Commissura fornicis*; (b) that the "centrum ovale majus" would be interrupted by the proccelia; $\times 2$.

Abbreviations.—Cs. f., *commissura fornicis*; hmspt., hemiseptum (lateral half of the septum incisum); H. H., horizontal dotted line coinciding with the dorsimeson of the callosum and intersecting the proccelia cells; M. M., the meson.

The pia is seen to dip between the hemispheres. Its prolongation, the velum, may be said to line the interval between the fornix and the subjacent thalami and diatela. The endyma lines the diacelia, and forms a continuous lining for the proccelia at each side, but the proplexuses are not shown; their relations will be indicated in another figure.

The brain was hardened in the skull and the cells were uninjected, but without pressure enough to distend them unnaturally. The figure includes only the parts concerned with the *Commissura fornicis* and the centrum ovale. The only "restorations" consist in (a) representing the lateral masses of the fornix upon the same level and equidistant from the meson, instead of slightly displaced, as in the specimen; (b) introducing a curved line to represent the diatela or primitive roof of the "third ventricle," which is, in reality, complicated by the diaplexuses; (c) the omission of the proplexuses.

5. It is much easier to copy figures and paraphrase descriptions than to make original ones.

6. Writers do not always seem to compare carefully the conditions presented in their own figures.*

Commissura fornicis.—In 1861 Reichert (Figs. 34, 35, "W") represented the fornix (when transected at or near the plane of the mediodorsal commissure) as consisting of thick lateral masses conjoined across the meson by a thin lamina, to which he gave the name *Commissura corporis fornicis*, or *Commissur des Gewolbes* (pp. 70, 158, 159).

Notwithstanding the classical nature of the work just referred to, I have yet to see a recognition of the name or of the anatomical feature indicated thereby. On the contrary, with the single exception of Fig. 1 in Plate LXXXII of Har-

rison Allen's treatise, the mesal portion of the fornix,* whether in transection or in mesal hemisection, is represented as much thicker than there is reason to think it ever really is. This is particularly the case in the transections of the brain within the cranium already mentioned (Gray, Fig. 383; Quain, II, Fig. 306); the same error occurs in Henle (Fig. 82), while in "The Anatomy of the Head," especially in view of the prefatory remark (p. vi) respecting the accuracy of the drawings, the representation of the fornix is almost grotesque.

In reality, as shown in Fig. 47, in an adult human brain well hardened by alcohol, the thickness of the fornix along the meson dorsad of the diacelia is not more than 1 mm., one fourth or one fifth that of the thicker part of the lateral masses.

The error just mentioned is to be accounted for as follows: The *Commissura fornicis* is thin, delicate, far from the surface of the brain, not parietal to any true cecelia, and apparently of little or no physiological importance. Hence it is rarely reached by preservative agents, apt to be torn in removing or examining the brain, and easily overlooked in its dissection. When torn, the observer might conclude that the lateral fornical masses were normally in contact by the somewhat extensive mesal surfaces just ventrad of the commissure, and ignore the difference between the natural and artificial areas. Upon the meson of an accurately hemisected brain, of course the cut edge of the commissure should appear as a smooth, narrow area just dorsad of the wider natural surface of the lateral mass. But, as just remarked, the distinction might be overlooked, and, in fact, the plane of the hemisection is rarely accurately mesal; and, if, as often happens, the parts chanced to be slightly displaced, the plane of section might divide the thick lateral mass of one side, and only a careful inspection of the other would disclose the existence of the thin and undivided commissure.

In addition to the foregoing considerations, which are not only excuses for error, but also arguments for improved methods of manipulation, it is probable that, if the writers and students of treatises on descriptive anatomy heeded the embryological fact that the two halves of the fornix are primarily distinct, the commissure being a secondary formation (Lecture I, Figs. 36, 37, February 16th, p. 182), they would have been less apt to ascribe such thickness to the mesal portion.†

* For convenience, the word is here used in the ordinary sense to designate a single arch; the desirability of a change in this respect will be discussed farther on.

† It is proper to mention that until about a year ago I also had overlooked Reichert's application of the name *Commissura fornicis* to the thin mesal lamina, and had suggested the same name (9, 134; 14, 543; Wilder and Gage, 476) for, in the cat, a distinct band across the caudal aspect of the fornix, on which rests the crista, and which apparently unites the two columns more closely. In correcting this oversight at the meeting of the American Neurological Association (Transactions, etc., "Journal of Nervous and Mental Diseases," July, 1883, p. 85), and in proposing to substitute for the band in question the name *vinculum* (printed *vericulum* by mistake), I may have committed still another, in case the vinculum of the cat should prove to be what Reichert designates as *Commissura columnarum fornicis* (70, 161, Fig. 35, "W"). Upon this point the materials now at my command do not enable me to satisfy myself.

* A striking example of this carelessness is afforded in each of the two works already named—Quain, II, Fig. 306; Gray, Figs. 381, 383. The transections purport to represent the brain in the skull, and in each the level of the callosum is below that of the proccelia. Perhaps, however, like other prominent features of these figures, this is purely imaginary, or due to a misconception on the part of the artist; the latter supposition must also be held to account for several startling peculiarities of Plates IV and V in Dwight's "The Anatomy of the Head," where the impossibility of the existence of a "centrum majus" is linked with impossibilities of a less instructive kind.

The Complete Circumscription of the Tip of the Mediocornu by Nervous Matter.—Without discussing here a point which was referred to in Lecture I (February 16th, 181, Fig. 27), and which will be considered more fully farther on, it may be admitted that, along a line extending for most of the length of the medicornu ("cornu descendens"), the proper nervous wall is abrogated so as to constitute the *rima* (part of the so-called "great transverse fissure"), and that along this line the border of the velum constituting the proplexus finds its way into the cornu. These parts are commonly so described as to imply that the rima and the plexus extend to the *extremity* of the cornu, and that the latter therefore is in no part of its length completely surrounded by a continuous wall of nervous tissue.

In Gray (p. 638) the rima is said to extend "to the end of the descending cornu." In Quain (II, 349, 350, 351) the statements are even more explicit: The rima is said to extend "from the extremity of the descending cornu"; the choroid plexus "to the point"; and the choroid artery to enter "at the lower end." The same are expressed or implied in most works upon descriptive anatomy, and in Leuret and Gratiolet (II, 77), notwithstanding the very clear representation of a continuous, thick nervous wall by Reichert (Fig. 34).

Before this feature of Reichert's work had attracted my attention, I had, in November, 1876, ascertained that the tip of the medicornu in the cat is circumscribed for from 3 to 5 mm., and, in 1879, in an unpublished paper (4) before the American Association for the Advancement of Science,

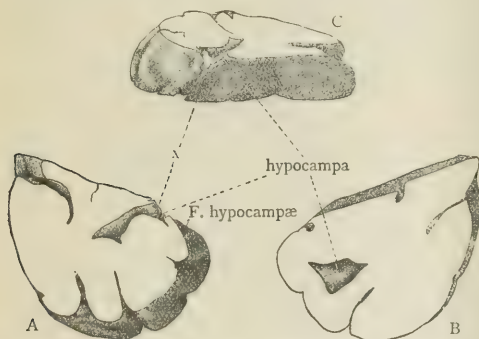


FIG. 48.—TRANSECTION OF THE LEFT TEMPORAL LOBE OF A CHILD AT BIRTH, showing the complete circumscription of the tip of the medicornu, and the thin lamella at the end of the rima. Drawn by Mrs. Gage. A, caudal aspect; B, cephalic aspect; C, oblique view.

The plane of transection was nearly perpendicular to the long axis of the entire hemisphere, but, of course, oblique with respect to the medicornu at this place.

At A, when the page is held in a vertical plane, the transection has very nearly its natural position with regard to the meson of the entire brain. At the left and below are the lateral and ventral surfaces of the temporal lobe; this fragment was separated from the rest by an oblique incision for the sake of exposing the edge and ectal surface of the lamella *x*.

At B the transection is reversed so as to present its cephalic aspect and exhibit the thickness of the proper nervous wall.

At C the transection rests upon the cephalic surface, the caudal surface is shown foreshortened, and the lamella *x* is seen in profile to have a slightly concave free border.

demonstrated a similar circumscription in an adult human brain and in that of a child at birth (Fig. 48). Attention

has been called to the matter in subsequent publications (9, 136; 14, 541; Wilder and Gage, 487; 30, 86). In the adult brains examined, the circumscription has existed for from 10 to 17 mm. from the tip of the cornu. A like condition has prevailed in all the mammals examined by me.

The transition from a thick wall of proper nervous tissue to the rima itself, where the abrogation of this wall permits the intrusion of the proplexus, is constituted by a delicate lamella marked *x* in Fig. 48, which seems to have escaped observation hitherto. In shape it is irregularly semilunar, something like the blade of a "turf-cutter," and looks as if let into the notch between the adjoining thicker portions of the cornual parietes. Its longer and convex border is, of course, continuous therewith, but its shorter concave margin is rounded and free, excepting for the adhesion of the pia and the endyma. In substance it seems to resemble other atrophied portions of the cœlian parietes (terma, valvula, etc.). I refrain from giving a name to this lamella, partly because an appropriate single word has not yet occurred to me, and partly in expectation of learning that it has been previously observed if not named.

In general, the foregoing demonstration of a complete nervous circumscription of the tip of the medicornu illustrates the following points:

1. The possibility of omissions and inaccuracies in standard treatises.
2. The defects of the prevalent methods of preserving and examining the brain.
3. The disadvantages of purely anthropotomical methods of regarding the brain. From the condition of things in amphibia, reptiles, and birds, and in mammalian embryos, no one would take for granted, without absolute demonstration, that an interruption of the nervous parietes extended to the tip of the medicornu, or even for any considerable distance along its length.

Statements and Figures liable to cause Misconception.

—As already stated, the matters just considered are of comparatively slight importance, and merit attention mainly for the sake of attaining, so far as possible, an absolute accuracy in the description of all parts of the body.

But the points now to be discussed relate more or less directly to the question as to the extent and manner in which the encephalic cavities are inclosed, and therefore have a much wider bearing and deeper morphological significance.

With regard to two other large, hollow organs, the heart and the stomach, the continuity of the parietes is so immediately related to the performance of their principal functions that the manner of circumscription of their cavities was promptly ascertained. No such obvious or urgent physiological argument applies to the brain, but, from the purely morphological side, the aspect which should be considered in advance of both descriptive anatomy and the study of function, there is equal need to determine the extent and manner in which the encephalic cavities are circumscribed.

Judging from personal experience, from common report, and from standard and current anatomical literature, as a basis for the comprehension of the structure of the brain

nothing is more essential than a clear and correct idea of cœlian circumscription, and, at the same time, nothing is more difficult to obtain.*

The neurological expert may not need to be informed, and there are doubtless graduates in medicine who merely "follow a trade," and, like the poorer class of mechanics, hold thinking to be a waste of the time that might be spent in learning practical "rules of thumb." But among the more earnest and intelligent members of the profession there are surely many who, at some period of their course, have been haunted and almost tormented by the desire to reconcile the statements and figures in the descriptive portions of their anatomical manuals with the ideas which seem to be inculcated in the embryological divisions of the same works or in treatises upon comparative anatomy. These morphological notions constitute, as it were, principles of anatomy which are at variance with what are commonly supposed to be facts. The result is a state of intellectual unrest quite comparable with the moral disquiet which is caused by an endeavor to harmonize the "golden rule" with the habit of self-indulgence.

It would seem that some of our anatomical predecessors were badly burdened with morphological scruples. Two centuries ago Helkiah Crooke wrote as follows:

Archangelus maketh mention of a passage which is in the middle and hath a double issue, one directly into the ventricles we speak of, the other into the palate† and so into the lungs. *This passage is known to but few.* [The italics are mine.] Neither can it be found but in a sound brain when the man cometh to a sudden and unlooked-for end and is presently dissected; for the parts of the brain that are about this passage do in a short time so fall and close together that the passage is cleane obliterated.

Nor need we go so far back for misconception as to the relations of the encephalic cavities. Tiedemann (26) and Solly (173) described the "lateral ventricles" as resulting from the folding over of the hemispheres; the existence and

position of a communication between the "third" and the "fifth" ventricles are gravely discussed by Mecket (II, 450), Tiedemann, Leuret and Gratiolet (II, 8), and others; in the eighth edition of Quain (II, 543) such a communication is admitted to exist in human embryos and some animals, and it would be hard to place in a single column a greater number of perplexing misstatements than occur in Todd's account of the "ventricles" in the "Cyclopædia of Anatomy and Physiology."

In the text of the latest editions of Quain and Gray occur very few positive errors with regard to cœlian circumscription. On the contrary, on pages 346, 347, and 349 of the former, and on page 638 of the latter, there are distinct recognitions of the artificial nature of the so-called "great transverse fissure," and in general of the continuity of the lining membrane of the cavities.

The figures, however, are less satisfactory. Admitting that each figure fairly and correctly illustrates one or more points in encephalic anatomy, nevertheless, in the works above named, and even in the more elaborate treatise of Henle, besides errors and omissions in regard to other matters, every figure where the immediate cœlian parietes are represented either fails to convey any information at all, or indicates the reverse of the truth with regard to cœlian circumscription. This feature of the illustrations would be less puzzling if the extent and manner of cœlian circumscription were fully illustrated in special figures or treated of in the text otherwise than indirectly, or even if it were stated that the encephalic cavities are or are not completely inclosed, but that the figures are not designed to illustrate the matter in detail. On the contrary, in Quain, for example, one of the new figures (Fig. 291), in which is represented one of the most obscure and ill-comprehended regions of the entire brain, leaves the matter of endymal continuity and cœlian circumscription in a far more perplexing state than if it had been omitted altogether.

(To be concluded.)

Original Communications.

CASES OF WOUNDS OF THE CORNEA, IRIS, AND LENS.

By J. B. EMERSON, M. D.,

ASSISTANT SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL; LECTURER
IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

CASE I.—*Wound of the Cornea, Iris, and Lens by a Carpet-Tack; Synechia Anterior; Miscarriage; Iritis; Increased Tension; Hypopyon; Evacuation of Lens Matter and Pus by a Paracentesis; Panophthalmitis; Enucleation.*—Mrs. —, aged thirty-seven, came to my office June 19, 1883, with the following history:

On the preceding day, while shaking a strip of carpet, she was struck in the left eye by a tack. The sight in that eye was "immediately lost." Since then she had been suffering with pain, photophobia, and lachrymation. Had been using ice-water, which made her eye feel more comfortable. There was considerable difficulty in examining the eye, owing to the photophobia

* This view of the case was presented in the first lecture in the four following propositions, the first and second indicating the prevalent custom, and the third and fourth my own conviction and practice:

1. The brain is regarded as a fibro-cellular mass, penetrated here and there by inconsiderable cavities.
2. Little attention is paid to the membranes which line these cavities and invest the entire organ.
3. The arrangements of the solid parts of the brain are more readily perceived and more easily remembered after the relations of the cavities are fully understood.
4. An adequate idea of the circumscription of the cavities involves a distinct recognition of their lining and of the investment of the whole brain.

For seven years I have been in the habit of beginning the account of the brain, whether for anatomical or for physiological purposes, by a description of the cavities, their mode of origin, their succession, etc., the parietes being described as built up around them and gradually differentiated. It is quite possible that other teachers have followed the same method, but I am not aware that it was formulated or even mentioned prior to the publication of "Anatomical Technology," where it is given on page 401.

† This sounds almost like a prophecy of the comparatively recent determination of the manner of formation of the hypophysis as a diverticulum from the mouth. See Quain, ii, 831, and the papers there mentioned.

and spasm of the lid, but the following conditions were noted: The cornea was perforated with a ragged wound extending from the upper third downward and outward to a little below the pupil. The iris was wounded at the pupillary margin and adherent to the corneal wound; the pupil was contracted; no anterior chamber. The lens was completely opaque. The patient could only tell light from darkness. With the exception of slight lachrymation, the right eye was normal. Small pieces of cloths, rendered cold by having been kept on a block of ice, were advised, to be changed every few minutes, or as soon as they became warm, and the instillation of a drop of solution of sulphide of atropine (gr. iv- $\frac{3}{4}$) every three hours.

June 20th.—Less pain; pupil partially dilated; synechia anterior of the lower third of the iris; anterior chamber empty.

24th.—Patient is confined to bed by a miscarriage. The wound in the cornea is closed. The anterior chamber filled above the synechia, lens swollen, and lens matter protruding into the anterior chamber; ciliary region injected. Slight iritis. Tension of the globe about normal. Continue ice-cloths and atropine.

July 1st.—Patient was comfortable until last night, when the pain became severe, and extended through the left side of her head. Increased redness of eyeball. Advised, in addition to the previous treatment, that two leeches be applied to the left temple.

3d.—Eye feels better, but there is still considerable pain. Tension of the globe is increased. Advised two more leeches.

4th.—Eye feels much better.

6th.—Pain returned last night. Some chemosis of the conjunctiva. Small amount of pus in the anterior chamber. The cold cloths make the eye more uncomfortable. Advised that hot water be used instead, and two more leeches be applied.

7th.—The eye felt more comfortable after leeching and use of the hot water. Chemosis increased. More pus in the anterior chamber. Tension markedly increased. The protruding lens matter in the anterior chamber has assumed a peculiar yellowish color. The pus and some of the lens matter were evacuated by a paracentesis, done with an iridectomy knife, and a bandage was applied.

9th.—Patient has been more comfortable. Wound still leaking.

10th.—The wound is closed. Pain and chemosis more marked. Cornea infiltrated. Iris is suppurating. The patient has been steadily losing flesh and strength, and now is comfortable only when under the influence of morphine; as panophthalmitis is most probably setting in, enucleation is advised. Dr. Francis Valk saw the case with me, and agreed in the advice.

11th.—Eye enucleated without trouble under the influence of ether. On opening the eyeball, pus and exudation were found involving the whole of the ciliary region. The vitreous clear, except at the anterior part.

17th.—Wound healing. Patient still complains of the pain in left side of head. Advised tonics of iron and quinine.

20th.—Patient is looking much better. Says she "feels like another person." Wound healed. Advised artificial eye to be put in at once.

The right eye has given no trouble except slight lachrymation.

CASE II.—*Wound of the Cornea, Iris, and Lens by a Com-brie Needle; Chemosis; Iritis; Swelling of the Lens; Increased Tension; Lens and Thickened Capsule extracted; Secondary Hemorrhage; Atropine Poisoning; Phthisis Bulbi.*—Mrs. —, thirty-six years of age, was sent to Dr. Roosa's clinic at the Manhattan Eye and Ear Hospital, July 19, 1883, by Dr. W. A. Dayton, with the following history:

On the 30th of June the left eye was wounded by a sewing-

needle, her elbow being accidentally struck while she was holding the needle. The cornea was punctured in the upper half just above the pupil, the wound extending through the iris and lens. Was seen by Dr. Dayton a week later, who used atropine and leeches. At present has slight chemosis. Some pain; pupil well dilated. Anterior chamber nearly entirely obliterated by the swollen lens. Tension of the eye much increased. Lens opaque, and a small amount of lens matter or pus in anterior chamber. Patient can not tell light from darkness. Right eye normal, with a slight error of refraction. Patient was admitted to the hospital, and two leeches ordered on the temples and atropine continued.

July 21st.—Has had more pain. Eyeball hard. Ether was administered, and a broad iridectomy performed upward and inward, and considerable amount of lens matter spooned out. It was then found that the entire pupil was filled with a thickened and infiltrated membrane. The wound being too small to permit of its removal, it was enlarged with scissors, and the mass removed with iridectomy forceps, leaving a black pupil. Bandage applied.

August 3d.—Has had no pain since the operation. Eye steadily improving until last night, when she complained of severe pain. The eye became more injected.

4th.—More pain last night. The anterior chamber is full of blood (two weeks after the operation); atropine, hot water, and bandage ordered.

5th.—Feels comfortable; anterior chamber three fourths filled with blood.

6th.—Anterior chamber half full of blood.

10th.—Hæmorrhage entirely absorbed, leaving the pupil and coloboma blocked with an inflammatory membrane.

Patient has perception of light.

September 1st.—Eyeball has slowly cleared up.

Patient can now see objects.

October 1st.—Patient has been using atropine at home, and now has the peculiar glistening condition of the skin of the lid and cheek, showing that atropine is producing local irritation; eye-ball much shrunken; stop all treatment.

15th.—Eyeball entirely free from redness, but still shrinking.

CASE III.—*Wound of the Cornea, Iris, and Lens with a Stick; Removal of Lens Matter through the Wound; Synechia Anterior; Recovery, with a Slight Opacity of the Cornea and Synechia Anterior; Perception of Objects.*—Thomas —, three and a half years of age, was brought to Dr. Roosa's clinic at the Manhattan Eye and Ear Hospital by his mother, on August 25, 1883, who said that he had been struck in the right eye that morning with a stick. Ether was given, and the following condition observed: The cornea perforated, wound extending from outer and upper third down to the ciliary body; iris against posterior surface of cornea; lens matter extruding through wound in the capsule near the center. By pressure with the spoon, much of the lens matter was got out through the wound, when vitreous began escaping, and the remaining lens matter disappeared from view. Vitreous cut off with scissors; edges of wound coapted; atropine solution instilled and bandage applied.

August 26th.—No pain; no anterior chamber; slight ciliary injection.

27th.—Anterior chamber formed, and small amount of hæmorrhage into it. No pain.

September 1st.—Hæmorrhage nearly absorbed; some iritis.

18th.—Eye has become quiet; synechia anterior; small amount of lens capsule in pupil; opacity of cornea; patient can see objects.

CASE IV.—*Wound of the Cornea, Iris, and Lens by a Tack;*

Iritis; Synechia Posterior; Absorption of the Lens; Perfect-looking Eye; Good Vision with a Glass.—Mrs. W., aged thirty-five, came to Dr. Roosa's office, while I was in charge of his patients, July 10, 1883, with this history: On the preceding day she was taking tacks out of a chair with a dinner-knife, when one of the tacks flew up and struck her in the left eye, causing the immediate loss of sight in that eye. Since then she has had pain and photophobia, and has been using ice-water, which made the eye feel more comfortable.

The eyeball was red in the ciliary region; the cornea and iris perforated at outer third; the pupil contracted; the lens opaque; a good anterior chamber. Under the influence of atropine, which was used at the office, the pupil dilated on its inner half, leaving an unbroken synechia posterior of its outer half.

Patient can only tell light from darkness with the left eye. The vision of the right eye is $\frac{2}{3}$, and not improved with glasses.

The ophthalmoscopic examination showed a normal fundus with hypermetropic refraction. Advised to use iced cloths and a solution of atropine sulphate (gr. iv- $\frac{3}{4}$) every three hours.

July 17th.—Has had a little pain; ciliary region still red; left pupil irregularly dilated.

The lens is swollen, and lens matter protruding into the anterior chamber; tension of the eyeball normal.

Vision of right eye same as before; continue treatment.

23d.—The eye in same condition; stop iced cloths; lens matter absorbing.

August 23d.—The eye has slowly improved; the redness entirely gone; the pupil is well dilated, but irregular; small amount of lens matter in anterior chamber; no pain; continue atropine.

November 3d.—Atropine was discontinued several weeks ago; the pupil is black and nearly round; minute opacity of cornea, and just behind it a small perforation of the iris about half way between its outer and free border; small amount of lens capsule at the lower part of the pupil.

Vision of the right eye with $+\frac{1}{2}$ is $\frac{2}{3}$ +.

Vision of the left eye still $\frac{2}{3}$.

Patient can read No. 1 of Jaeger's test letters with $+\frac{1}{2}$ with the right eye, and No. 2 Jaeger with the left.

Advised a glass $+\frac{1}{2}$ for reading with left eye.

These cases are good illustrations of a class which is of interest not only to the ophthalmic surgeon, but to all practitioners, since they rank among cases of emergency. General practitioners are much more apt to see them first, and in remote districts they are called on to conduct them to their termination.

Uncomplicated punctured or incised wounds of the cornea as a rule heal with little difficulty, the indications for treatment depending entirely on the size and situation of the wound, the object being to prevent adhesion of the iris to the wounded surface. If the wound is small and situated in any part of the cornea, or large and situated near the center of the cornea, sulphate of atropine should be used; if, however, the wound is large and near the periphery of the cornea, the sulphate of eserine will contract the pupil and thus draw the edge of the iris away from the wound. A flannel bandage should be applied to the eye until the wound is closed and the anterior chamber filled.

Uncomplicated punctured or incised wounds of the cornea are rare, as the projectile is more than likely to wound both the iris and the lens, on account of their nearness to the posterior surface of the cornea. The escape of

the aqueous throwing them forward would bring them either against the projectile or into the wound, thus causing a wound or a prolapse.

Excluding entirely those cases where the ciliary region is involved, the prognosis in wounds of the cornea, iris, and lens must be very guarded, and will depend to a large extent on the size, the location, and the nature of the projectile causing the wound.

We can never be certain that the deeper parts of the eye are not involved, owing to absence of the anterior chamber, irregularity of refraction, and a "nervous" condition of the patient immediately after the accident; and subsequently (within twenty-four hours) the opaque lens prevents the possibility of examining the fundus.

The projectile is always more or less rough, and causes contusion and laceration of the edges of the wound, thus rendering union by first intention improbable. Again, the parts wounded are not only lacerated and contused, but they are liable to be irritated if not inoculated by particles of dust, iron-rust, etc., which are found on such bodies as tacks, needles, etc. Nor can we get at the parts to cleanse them, as the first principles of surgery teach.

The most favorable result will be an eye without a lens and with a scar on its cornea—an eye which without glasses will only be of use in preventing collision with large objects approaching from that side. And while there are cases where patients have used the necessary correcting or focusing lens over the *lensless* eye, and a plane glass over the other, it is the exception rather than the rule. In Case IV the patient could see better with the left eye and a glass than she could with the right; but, owing to dizziness when she attempted to walk, she was unable to use them. But, for reading, she found the left eye better than the right, and used it to the exclusion of the right, which was probably congenitally amblyopic. The termination, then, will extend from entire loss of the eyeball to the above-described condition.

The treatment must depend on the condition of the eye. Where the wound is small and there is not much reaction, the indication is to get the *pupil dilated* and combat secondary inflammation with iced cloths and leeches. If the iris is prolapsed and can not be replaced by manipulation, it should be carefully cut off with sharp scissors.

If the eyeball becomes hard and painful, the tension should be relieved by paracentesis, iridectomy, or extraction of the lens.

If suppuration or ophthalmitis sets in, the shortest and most comfortable way out of the difficulty for the patient is to enucleate the eyeball. By doing this the patient is saved weeks of suffering, and, in the future, the danger of sympathetic irritation from a sightless and atrophied globe.

It is held by some that the socket does not develop well in children after the eyeball has been removed, and that, consequently, great deformity is caused. If this is so, the last indication is less applicable for children than for adults.

THE UNIVERSITY OF EDINBURGH.—We understand that, at the approaching centenary of the university, it will confer the degree of LL. D. on Dr. Fordyce Barker, of New York, and Dr. John S. Billings, of the army.

CALCIUM SULPHIDE IN THE TREATMENT OF DIABETES MELLITUS.

BY C. M. CAULDWELL, M. D.,
VISITING PHYSICIAN TO ST. JOSEPH'S HOSPITAL.

WITHIN the past ten years so-called calcium sulphide has been recommended by several observers as a valuable drug in the treatment of diabetes mellitus. Dr. N. C. Husted, who was himself afflicted with this disease, made a complete and lasting recovery by using the drug in connection with appropriate hygienic treatment. The doctor has since employed it with satisfaction in other cases of diabetes.

Dr. Austin Flint, Sr., has prescribed the remedy, along with suitable diet, general management, etc., in several cases which progressed favorably.

Dr. C. H. Lellman gave sulphide of calcium with remarkably good effect in a single case occurring in his service at St. Francis's Hospital in 1880.

I have used the drug in only three cases. In one, it produced no effect whatever. In the others, improvement began and recovery took place during the administration of the remedy.

The following are brief histories of the cases which ended in recovery:

CASE I.—Mr. H. B., aged sixty-five, an artist. First seen on February 20, 1888. For five or six years he had suffered from severe attacks of asthma, but, until within two years, his general health was good, although financial difficulties caused much mental depression and worry. During the past eighteen months he had noticed a slow but steady increase in the amount and frequency of micturition at night. Dryness of the mouth and throat, with marked thirst, had gradually become very troublesome, and progressive loss of strength and ambition had been observed by his friends. By far the most prominent symptom, however, was his enormous appetite—as he expressed it, “he ate like a starving wolf, yet remained hungry night and day.” Sight had not notably failed. There had been no cutaneous complication, and the bowels had remained regular.

Examination showed considerable pulmonary emphysema, slight bronchitis, and marked anemia. Skin dry. Extremities cold. Saliva faintly acid. Urine pale, acid, sp. gr. 1.042, and a strong sugar reaction with Squibb's Fehling's solution. A moderately strict “diabetic diet,” daily out-of-door exercise, with iron and one quarter of a grain of calcium sulphide five times daily, were prescribed.

February 22d.—Patient passed 185 oz. of urine to-day. Sp. gr. 1.038. Sugar abundant.

23d.—Passed 200 oz. Sp. gr. 1.040. Sugar abundant.

24th.—Passed 150 oz. Sp. gr. 1.040. Sugar abundant.

25th.—Passed 168 oz. Sp. gr. 1.038. Sugar abundant.

March 1st.—Patient's general condition has improved slightly during the past week. Appetite is less ravenous, and thirst not so intense. Passed 100 oz. Sp. gr. 1.036. Sugar abundant.

7th.—A steady improvement has been noticed in the more annoying symptoms. Night before last the patient had a severe attack of asthma, presumably due to an exacerbation of his chronic bronchitis from which he is now suffering. Passed 69 oz. Sp. gr. 1.030. Sugar abundant. Ordered an expectorant mixture for bronchitis, and fluid extract of quebracho should asthma return.

14th.—Continuous improvement in the diabetic symptoms,

but there were two attacks of asthma last week. Passed 63 oz. Sp. gr. 1.034. Sugar present.

22d.—Improvement continues. Amount of urine not ascertained. Sp. gr. 1.028. Sugar present.

April 2d.—Excessive thirst and hunger, with frequent calls to micturate, have ceased to annoy. An appreciable gain in flesh and spirits has taken place within two weeks. Passed 60 oz. Sp. gr. 1.020. No sugar.

4th.—Passed 53 oz. Sp. gr. 1.026. Trace of sugar.

15th.—For the past ten days the urine has contained no sugar, the sp. gr. varying between 1.020 and 1.030. The diabetic symptoms have subsided.

October 23d.—The patient was seen to-day for the first time in five months; during that period he has had no return of his former symptoms. A specimen of his urine gave an acid reaction, sp. gr. 1.016, and contained no sugar.

CASE II.—Mr. S. D., aged twenty-four, leather dresser. Came under observation May 22, 1883. The patient had been healthy and fairly robust until about one year ago, when he began to lose flesh and strength, to have continual thirst, irregular appetite, flatulent dyspepsia, persistent constipation, repeated headache and backache, and frequent micturition accompanied by urethral smarting. There had never been chills or sweating during this period. The above symptoms continued, although much modified, for a time, by treatment. During the past four months a dry morning cough, occasionally accompanied by “stitch-like” pains in the right side of chest, with slight dyspnea on exercise, had been added to the other symptoms. The young man gave no family history of phthisis, but his business had necessitated his remaining in a dusty atmosphere for many hours each day.

Physical examination showed consolidation of the right apex anteriorly, a considerably enlarged spleen, dry skin, with patches of eczema on the lower extremities and genital organs. The mouth and throat were red and irritated, but not particularly dry. Saliva neutral in reaction. Urine clear, pale, acid, sp. gr. 1.038, strong sugar reaction with Fehling's solution. A diabetic diet, cod-liver oil, iron, and sulphide of calcium in one-half-grain doses three times daily, were ordered. Also a laxative pill and regular exercise in the open air.

May 23d.—Passed 165 oz. of urine to-day. Sp. gr. 1.040. Sugar abundant.

29th.—During the last five days the daily amount of urine passed has varied between 170 and 150 oz., the sp. gr. ranging from 1.040 to 1.035.

June 8th.—Slight improvement has taken place in his general condition. The diabetic symptoms are less annoying and the digestion markedly improved. Urine not measured. Sp. gr. 1.035. Sugar abundant.

15th.—Passed 70 oz. Sp. gr. 1.030. Sugar present. Patient is improving steadily.

21st.—Passed 72 oz. Sp. gr. 1.030. No sugar.

30th.—Urine not measured. Sp. gr. 1.025. No sugar present. Diabetic symptoms have disappeared, but evidences of the lung trouble are present to the same extent as formerly.

July 25th.—The urine has been examined frequently since the last note, and has always been free from sugar, but, as the symptoms and physical signs of lung consolidation did not improve, the patient was advised to start for Switzerland at once. He did so a week ago.

October 22d.—Nothing further has been learned concerning this patient.

It will be observed that in the first case improvement commenced in two weeks, but the sugar did not entirely disappear until six weeks after treatment was begun.

In the second case benefit was unquestionable at the end of three weeks, and no sugar was detected after one month of treatment. The patient with whom calcium failed took the drug faithfully for one month.

Although calcium sulphide is certainly not a specific in diabetes, yet it seems worthy of a trial in persistent cases of this distressing disease.

CASES OF KNEE-JOINT EXCISION, WITH REMARKS.*

By CHARLES MCBURNAY, M. D.,

SURGEON TO BELLEVUE AND ST. LUKE'S HOSPITALS.

MR. PRESIDENT: In my paper to-night I am able merely to present the histories of all my cases of knee-joint excision as a contribution to the statistics of that operation, with especial reference to the danger and mortality arising from this operation.

CASE I.—Frank Halle, aged twelve years. His parents gave a history of synovitis, complicated by abscesses occurring at the age of two. Both knees were affected. When the patient came under my observation at the Orthopedic Hospital, the right leg was flexed so as to form an angle of 25° with the thigh. No extension was possible. The left leg was flexed as much, but could be extended so as to form an angle of 90° with the thigh. The boy moved by sliding about on his toes, the heels touching the buttocks. Both knee joints were surrounded with cicatrices of old sinuses. On June 10, 1878, I attempted to excise the right knee joint, as the head of the tibia was displaced very far backward, and forced extension, aided by tenotomy, had been attempted on the left leg without success. Owing to the great displacement of the leg backward, and the shortening of the hamstring muscles and posterior ligaments, I was obliged to remove no less than four inches of bone, so that the femur was sawn, after several sections had been made, far above the epiphyseal line.

The operation was done under the constant use of the carbolic-acid spray, and a complete Lister dressing was applied. A plaster-of-Paris bandage was applied to the thigh and to the leg, the plaster appliances being connected by hoops of iron curved over the joint outside of the dressing. Horse-hair drainage was used. This case required a great deal of nursing. Numerous sinuses formed, an abscess had to be opened in the popliteal space, and necrosis of a portion of the lower end of the femur occurred. Bony union was not firm until May 6, 1883—nearly ten months after the operation. By June 2d the patient was able to walk with a support on the left side, such as a chair or crutch. It was my intention to operate upon the other knee, but permission to do so was refused by the parents.

CASE II.—Kate Lyons, aged twenty-nine. This patient came under my observation in December, 1882, at Bellevue Hospital. Ten months before this time she had had an attack of acute articular rheumatism, which especially affected the right knee joint. I found the leg flexed at a right angle with the thigh, rotated outward, displaced outward and backward, and firmly ankylosed. The patient was quite helpless from the deformity, was weak and anæmic, and her urine contained granular casts. I excised this joint on January 4, 1883.

The patella was firmly adherent to the femur, and was removed. To allow proper extension of the leg, it was necessary to make a second section of the femur.

The bones were drilled at two points and silver wires in-

serted, which were brought out between the flaps. Full Lister precautions were used throughout the operation, and a Lister dressing was applied. Rubber drainage-tubes were used. A plaster splint was applied to the thigh, and another to the leg, and these were connected by iron brackets passing over the knee.

Seventeen days after the operation I found it necessary to continue the leg splint down to the toes in order to prevent eversion. The limb confined by the plaster apparatus was kept upon an inclined plane, this position aiding in steadying the femur and also allowing the under portions of the dressing to be easily inspected.

The average temperature during the seventeen days following the operation was 100-2° F. On one occasion, seven days after the operation, symptoms of carbolic-acid poisoning appeared, and the temperature suddenly rose to 105-2°. A bichloride dressing was applied, and the temperature at once fell to 101-2°.

On no occasion was there the slightest reason for anxiety about the case, except when the symptoms of carbolic-acid poisoning were present. A collection of pus formed in the upper synovial pouch, and the silver wires also caused suppuration along their track. The patient was discharged able to walk well on April 28th, a little less than four months after operation. The shortening in this case is one inch and three quarters.

CASE III.—Charles McKenzie, aged fifteen, a healthy, well-developed boy, suffering from atrophy and deformity of the left lower extremity and left half of the pelvis, due to infantile paralysis, came under my care at St. Luke's Hospital, February 1, 1883. The thigh was partially flexed upon the body, the leg was flexed at a right angle to the thigh, rotated outward and displaced backward. No ankylosis existed, but the greatest extension possible was 112°. The muscles of the thigh, leg, and foot were completely helpless, and the whole limb looked like that of a boy ten years of age. The shortening, as ascertained by careful measurements, was estimated to be over five inches. This patient was able to move about with difficulty on crutches.

I excised the knee joint February 17, 1883. The tibia and femur were wired together with silver wire. Two rubber drainage-tubes were used, one on the inner and one on the outer side of wound, and the wound was washed with carbolic acid and water, 1 to 40, and covered with gauze wet in the same solution. Dry gauze and borated cotton were bound over this dressing. A plaster splint (such as is here shown) was then applied, a single curved iron bracket passing over the knee, and a single nearly straight one passing behind. The limb was then kept upon an inclined plane.

This patient's temperature rose on the next day to 104° F., on the second day sank to 103°, and by the sixth day stood at 99-6°. From this time on there was never any temperature above 100-6°, and that point was reached only once.

In this case also pus formed in the upper synovial pouch, and along the track of the wires.

Firm bony union was found on April 28th, two months and eleven days after operation.

By May 4th all sinuses were soundly healed, and, with an artificial shoe constructed to make up for the extreme shortening, the patient was walking about with two sticks by July 4th.

At the present date he is able to walk easily and for long distances with a single cane. I can not present this patient, as he lives in the northern part of this State. I have a very recent report of his condition from his physician.

CASE IV.—Sereno Cappa, aged twelve. Five months before coming under my care, at St. Luke's Hospital, this boy had received a kick upon the right knee, the injury being rapidly followed by arthritis, abscesses, and caries of the head of the tibia. On examination, I found numerous cicatrices about the knee, the

* Read before the New York Surgical Society, March 25, 1884.

soft parts much thickened, great pain on motion, and two open sinuses leading to carious bone in the head of the tibia. The leg was slightly flexed, and motion of four or five degrees could be made when the patient was etherized. I determined to excise the joint, as the only means of saving the leg, and to remove the carious bone at one operation. This I was able to do. The section of the femur was made just below the epiphyseal junction, and the usual section of the head of the tibia. This last section opened several small abscesses in the head of the tibia, two of which had fistulous tracts leading out through the skin. These I scraped out from the sawn surface, thus making grooves on the upper end of the tibia, in which drainage-tubes of rubber could lie, without separating the femur and tibia. The patella was removed, and silver wires were used to assist apposition. Three tubes were inserted and brought out in the line of union of the skin. Drainage-tubes were also inserted at each lower angle of the incision, to drain the superficial wound. A plaster-of-Paris apparatus was then applied similar to the one here shown, with a single bowed bracket in front and a nearly straight one behind. A peat dressing was applied. The first dressing was changed on the fifth day, and after that frequent dressings were made, and thorough irrigations with 1-to-40 solutions of carbolic acid. With the exception of the evenings of the third and fourth days, when the temperature reached 100°-6° F., it did not rise above 100° up to July 10th, six weeks after the operation. The uncovered soft parts then became swollen. I took out the wires and removed the plaster splint, substituting for it a posterior woollen one. Three days later there was a sudden rise of temperature to 104°, and erysipelatous redness appeared on the leg. This attack rapidly subsided; for two days later the temperature was 99° and did not again rise. By September 15th, three months and a half after the operation, all sinuses had closed, firm bony union had taken place, and the patient was able to use the leg freely. The shortening in this case is one inch and a half.

CASE V.—Agnes Watkins, aged six. The patient came under my care at St. Luke's Hospital, May 23, 1883, being transferred from the orthopedic department. She had been treated conservatively at the Orthopedic Dispensary and at St. Luke's for some three years without success. Numerous abscesses had formed and opened, and there was extensive osteitis and caries of the lower end of the femur on the right side. The leg was flexed and displaced backward.

May 25th.—I excised the right knee joint, the section of the femur being made well below the epiphyseal line, and the whole articular surface of the tibia being removed. The patella was not adherent, and was excised. Two wire sutures were used, the twisted ends being brought out in the line of the wound. A drainage-tube of rubber was inserted at each lower angle of the wound. A plaster apparatus, including the foot, similar to that shown, was used, excepting that, as the limb was so light and small, no anterior bracket was required. Peat dressing was applied. The dressing was changed every few days, and a 1-to-40 solution of carbolic acid used as a wash through drainage-tubes. Six weeks and a half after the operation the wires were removed, and perfect union of the bones was found to have taken place. Two months after the operation the patient was up and walking about.

The temperature in this case reached 100°-2° F. on the evening of the sixth day. On no other occasion did it go above 100° until the wires were removed. The temperature then went up to 102°, but at the end of two days was again normal.

The present shortening is less than three quarters of an inch.

CASE VI.—Matthew Carey, aged seven, came under my care at Bellevue Hospital in July, 1883, giving a history of synovitis of the right knee joint originating in a traumatism received

eighteen months ago. I found the leg flexed on the thigh at an angle of 45°, rotated outward, and the head of the tibia markedly displaced backward. I divided the hamstring tendons, and attempted to straighten the limb, but, as so often happens in such cases, the shortened posterior ligaments could not be made to yield, and the head of the tibia was still more displaced. The attempt at straightening was also followed by a partial paralysis of the muscles of front of the leg.

October 18, 1883, I excised the joint, finding almost complete destruction of cartilage without ankylosis. This operation was done with constant irrigation by a bichloride-of-mercury solution, 1 to 1,000. A deep, continuous suture of catgut was used in sewing up the capsule, and a similar one for the superficial wound. A rubber drainage was inserted at each angle of the wound, and, to provide against the accumulation of fluid in the upper synovial pouch, a short tube was passed through the skin into the upper end of this sac. The wound was dressed with iodoform, carbolized gauze, and cotton, and was put up on a posterior wire splint.

The first dressing was removed thirteen days after the operation, and tubes removed. The wound had entirely healed, except at points of entrance of tubes. During November and December a troublesome dermatitis, without constitutional disturbance, set in. This was probably due to the irritating effects of carbolized gauze.

The highest temperature reached in this case was 101° on the evening of the day after operation, and again once on the third day. The average temperature was very nearly 99°-5°. The position is good, and the boy can walk, but to-day—five months after operation—bony union is not quite perfect.

CASE VII.—George Betz, aged seven, a very strumous boy, whose right knee had been previously opened by one of my colleagues at Bellevue Hospital for the relief of an obstinate synovitis with caries of patella and fungous disease of the joint. The patella had been removed and the joint carefully scraped out. The operation had apparently been entirely successful for a time, but, under my observation, pus formed in the joint found its exit through the anterior part of the upper synovial pouch, and the probe readily detected caries of the lower end of the femur. January 31st I excised the joint, finding extensive disease of the lower end of the femur. The operation was done under the constant irrigation with 1-to-1,000 bichloride solution. Catgut was employed for ligatures and sutures. The wound was dressed with iodoform, carbolized gauze, and a complete plaster splint applied over all. This dressing was not removed till six weeks after the operation. Pus was found in considerable quantity beneath the dressing. A line of prominent granulations existed throughout most of the wound. Bony union was almost complete.

The highest temperature reached in this case was 101°-4°, on the twentieth day after operation. This was probably malarial. The average temperature throughout was below 100°. I think it was a mistake to attempt to leave this first dressing on so long. Slight over-extension, which might have been rectified at an earlier date, now exists.

CASE VIII.—Mary Finkbeiner, aged twenty-six. When eight years old, this patient received an injury to her right knee which was followed by a synovitis of ten weeks' duration. She has been able to walk with a limping gait up to six months ago, when renewed disease of the joint forced her to use crutches. When the patient came under my care at St. Luke's Hospital, in February of this year, I found a large abscess in the head of the tibia opening externally about two inches below the joint, and above, through a large opening in the articular cartilage, communicating freely with the joint. Bony crepitis on motion was marked, the joint much swollen, and the leg partially flexed.

General condition of patient very bad.

March 7th.—I excised the joint, the section of the tibia opening the large bone abscess already referred to, and the first introduction of the drill on the inner side opening another. Both of these abscesses were thoroughly scraped, and openings for drainage-tubes made into them through the anterior surface of the tibia, *about two inches below the joint.* Rubber drainage-tubes were introduced through these openings. The operation was done with constant irrigation of bichloride solution, a deep and superficial continuous suture being used in the wound. A short bone-drain was inserted at either angle of the wound. It was impossible to use wire or other means to hold the bones together, as the abscesses referred to had so weakened the head of the tibia. The wound was dressed with iodoform and gauze, and the limb bandaged to a posterior wooden splint, with foot-piece to prevent rotation of the leg. This dressing was untouched until yesterday, twenty-two days after operation, when I found the wound soundly healed without pus. I removed the wooden splint, and put up the limb in the bracket splint shown. This case, like the preceding two, is not finished, and is only presented as bearing upon the question of immediate danger from the operation. The temperature record of this case is unusually good for a patient twenty-six years old. On the evening of the day after operation the temperature reached 100.4°; with that exception the temperature has never risen above 99.4°. It is noticeable, too, that, although no wires were used in this case, it was very evident at yesterday's examination that the bones were in close apposition.

The method of operating was nearly the same in all cases, a slightly curved incision being made from the back part of one condyle, across the front of the joint below the patella, to the back part of the other condyle. The patella was removed in all the cases, even when not diseased, and also as much synovial membrane and diseased capsular tissue as possible. In only the first case was any attempt made to use a drain passing from one side of the joint to the other. Two silver wires were used to suture the bones in every case except the last. The apparatus used has varied, but in five cases I have used the plaster splint with brackets similar to the one shown. This apparatus can be readily made and applied by the operator immediately after the operation, and allows of moving and dressing the limb very readily. I think that the best method is the one I adopted in the last case—that of putting the limb, immediately after the operation, in a permanent dressing and fastening it to a posterior wooden splint with a foot-piece. This provides against the chance of having to remove the plaster apparatus soon after the operation, in case of swelling of the parts or on account of accidental soiling of the plaster. At the end of two or three weeks the plaster splint with bracket can then be applied, and any desirable change in the position of the leg made. I have never tried the incision recommended by Hahn, of Berlin, which passes across the joint *above* the patella. It would doubtless allow of a more ready removal of the upper synovial pouch.

Such a removal is, I think, of considerable importance, as in most cases which I have seen there has been a tendency to the accumulation of fluid at that point. With regard to suturing the bones with wire, or nailing them together, as Hahn did in so many of his cases, I am inclined to think that neither procedure has any great value. In any

ordinary resection of the knee the posterior ligament is uninjured and forms a strong posterior support, and the natural shortening of the hamstring muscles must draw the tibia upward. Rotation seems to be the movement most to be feared, and that can be avoided by the retaining apparatus.

THE IRONDALE SPRING WATER.

By SAMUEL SWIFT, M.D.,

YONKERS, N. Y.

ABOUT two years ago Dr. W. R. Upham, of Yonkers, N. Y., spoke to me of the great benefit he thought he had obtained by the use of the Irondale Spring water in a number of cases, chiefly those of an inflammatory character (both acute and chronic) affecting the kidneys and urinary apparatus. He said he should continue his investigations, and, if in future he secured as favorable results, prepare a paper for publication. His unfortunate death occurring soon after, at the beginning of what promised to be a most successful professional career, terminated all his scientific work, and my conversation with him was for a time forgotten. In August, 1883, I accidentally heard of the remarkable recovery from chronic dyspepsia of a prominent officer in the U. S. Navy ascribed to the use of the Irondale Spring water. I remembered my conversation with Dr. Upham, and my interest in the subject was once more excited. I requested Mr. Felix Nemegyei, the owner of the property upon which the spring exists, to put at my disposal all facts in his possession relating to the discovery and use of the water. His statement to me was practically as follows:

"During 1881 this spring was discovered at Irondale, W. Va. The temperature of the water was found to be constant at about 45° F. above zero, independent of the temperature of the surrounding air, which varies from 20° F. below to 90° F. above zero. To the taste it was slightly acid. The constant coolness of the water induced its general use, but the drinking of it soon had to be discontinued. While on a few its frequent use appeared to exert a beneficial effect, most experienced unpleasant results. Its ordinary use was soon discontinued, as it also proved unfit for cooking purposes. In 1881 a gentleman in Grafton, suffering from chronic diarrhœa, unable to obtain at once the alum waters of Virginia, commenced its use as a temporary expedient. The result was surprisingly beneficial, and in about one month a complete cure was effected. At his recommendation, a lady in Morgantown, a victim of ulceration of the intestines, resulting from a serious attack of typhoid fever, gave it a trial. Her physicians had given her friends little hope of her recovery. She steadily improved, and in five weeks was restored to her usual health. A gentleman living in Clarksburg, W. Va., suffering from chronic dyspepsia, hearing of the spring, sent for the water, and soon reported himself relieved from his troubles. In the meanwhile, laborers, coming from the malarious regions of Ohio to work at the Irondale furnaces—all being more or less debilitated and anæmic—began to drink the water, and were generally greatly benefited. These favorable results were soon the talk of the neighborhood, and the farmers of the region commenced to use it in a variety of diseases. Whenever

used for indigestion, general debility (resulting from whatever cause), and gastric or intestinal disturbances, its use was found always to be beneficial, and in many cases complete cures were effected." At this time the rapidly increasing demand for the water attracted the attention of Mr. Nemegeyi. He began to use the water in his own family, and suggested its use to his personal friends. An analysis was made by Professor A. A. Breneman, formerly of Cornell University.

He made the following report:

ANALYSIS OF IRONDALE SPRING WATER IN GRAINS PER GALLON.

Chloride of sodium	1.361
Sulphate of potassium.....	6.764
Sulphate of calcium.....	60.417
Sulphate of magnesium.....	4.336
Sulphate of aluminum.....	11.337
Sulphate of manganese.....	2.857
Silicic acid.....	1.445
Vegetable and volatile substances.....	8.239
Traces of sulphate of iron, cobalt, and free nitric acid.	

It was found that the water could be transported only in glass. Wood was at once attacked, the water becoming yellow and filled with a flaky substance. Mr. Nemegeyi also informed me that the late Dr. Noble Young and Dr. McWilliams, of Washington, D. C., and Dr. F. H. Rankin, of Newport, R. I., had used the water in their practice and obtained very favorable results.

Making all allowances for the probable many cases of its unsuccessful use which have not been brought to the notice of its advocates, I still deemed the information obtained sufficient to justify me in beginning to use the water in my general practice, and requested Mr. Nemegeyi to have sent to a druggist in Yonkers a supply sufficient for a fair trial of its properties. My success has been such that I desire by this article to draw the attention of the profession to what I deem to be a valuable addition to the list of medicinal waters. I have used the water freely, and with steadily increasing confidence in its beneficial action. In no instance have injurious effects followed its exhibition; usually favorable results have been obtained, and frequently remarkable improvement and restoration to health have been secured. In simple anæmia, chlorosis, anorexia, and the various forms of dyspepsia resulting from these conditions, I now speak confidently to my patients of the favorable results that can be surely expected to follow its systematic use. The water in my hands has proved itself to be a powerful tonic. Where a tonic effect is desired I direct a claretglassful to be taken after each meal. In larger doses its diuretic effect is as well marked. In one case of diffuse nephritis, when the amount of urine passed daily had for some time varied from twenty to thirty ounces, a tumblerful of the water four times daily in four days increased the amount to fifty ounces per diem. I then decreased the dose one half, and for several weeks maintained a constant urinary secretion of from thirty-six to forty ounces, to the great comfort and relief from unpleasant symptoms to the patient during his life.

In small doses (from two to three drachms), every one or two hours, obstinate vomiting and inability to retain anything on the stomach have been overcome, and power to retain and

digest nourishment has quickly been regained. In one instance, the patient being already forty-eight hours fed by enema, all other remedies being without avail, I used this water as a last resort, with complete success; nausea ceased, and soon nourishment could be taken in the usual manner.

In fact, in no one class of diseases do I make use of this remedy, but depend upon it to treat symptoms that may occur in the course of any of them, and which my experience for the past six months has taught me may be successfully overcome or greatly alleviated by its exhibition.

In the vomiting of pregnancy it has proved of great benefit; small doses frequently repeated have in one case completely cured the morning sickness, and in two others given great relief.

As a summary of my experiments in the use of Irondale Spring water, I find that—

1. In claretglassful to half-a-tumblerful doses after eating it is a powerful and reliable tonic and antidyseptic.
2. In large doses—from one to two tumblerfuls four times daily—it acts as a free diuretic.

3. In doses of a tablespoonful every one or two hours, or sometimes oftener, it is a valuable aid in overcoming gastric and intestinal disorders—allaying nausea and promoting digestion.

4. It has proved more successful during the last six months than any other remedy at my command in the treatment of the ordinary varieties of indigestion.

5. It is not unpleasant to the taste, and has no disagreeable after-effects.

6. This is of great advantage in the treatment of children; they take Irondale as readily as the drinking water they fancy it to be.

I can only attribute the wide range of usefulness of this water to its decidedly beneficial effect on the stomach and digestive organs, strengthening the system to withstand the ravages of disease.

In anæmia, chlorosis, and kindred diseases where I used this water I found I could dispense with the use of iron preparations. Digestion was so much improved that the iron required to enrich the blood was taken from the food, the needful manganese being supplied by the water in such doses as seemed to me most appropriate.

In our usual practice, when through faulty assimilation of the food the iron and manganese have not been absorbed in sufficient quantities, we usually try to supply the deficiency by the use of iron and beef preparations, but results in many cases disappoint our expectations, and naturally so, because the digestive organs, being unable to assimilate these necessary substances from the usual food, are less able to do so when a heavier strain is put on them by an artificial increase of the same.

Professor Bartholow and others recommend the use of the preparations of manganese in all cases where I have found Irondale Spring water can be most successfully employed. I firmly believe that in the laboratory of Nature a combination has been effected, forming a natural spring water, that, judiciously and scientifically used, is capable of producing valuable therapeutical results and gaining a place among the remedial agents of the progressive physician.

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THE PHARMACEUTICS OF ACONITE.

At a time when every adverse criticism that it is possible to bring against the new United States Pharmacopœia is likely to be brought forward in the interest of the scheme now before Congress for establishing a pharmacopœia endowed with the authority of the Government, it may not be amiss to call attention to one of the excellences of the book under which we are now working. We refer to its treatment of the preparations of aconite, and we take all the more pleasure in commending that treatment now for the reason that we criticised it mildly soon after the work appeared. We then said that, in our opinion, an error had been committed in not specifying some preparation of aconitine as the official aconite. That criticism was made, however, in the interest of experimental therapeutics, and not as at all touching the policy of the pharmacopœia from the point of view of public safety. We still feel, of course, that it would be a good thing to have a standard preparation of aconitine, and we are quite willing to concede that the framers of the pharmacopœia thought so too, but refrained from establishing one on account of the unsatisfactory state of the processes then and now in use for isolating the alkaloid. But, be this as it may, there can be no doubt felt that our pharmacopœia dealt more judiciously with the question than the new French Codex has done, if we may judge from a discussion that lately took place in the Paris *Société de Thérapeutique*, a report of which we find in a recent issue of the "*Gazette hebdomadaire de médecine et de chirurgie*."

It seems that the new codex recognizes no other aconitine than the crystallized form, whereas the codex it supersedes admitted the amorphous alkaloid. As the former is much the more energetic poison of the two, there is grave danger that physicians' prescriptions calling simply for "aconitine," and coming from men who have been in the habit of using the amorphous form, will be filled by pharmacists in blind obedience to the established codex, and that serious misadventures in the way of poisoning are likely to take place in consequence. Although we are far from maintaining, or even supposing, that governmental authorization of a pharmacopœia would be generally construed as altogether setting aside the discretionary power on the part of dispensers which, exercised as it is by an intelligent and conscientious body of men, has come to be one of the safeguards on which prescribers feel that they must rely to some extent; yet the nationalization of our pharmacopœia would necessarily have some tendency to dull that sense of personal responsibility that lies at the foundation of the discretionary power in question, and that tendency seems to us an additional argument against the expediency of the bill now before Congress.

But it is not alone in the matter of aconitine that the codex shows to disadvantage; it admits preparations both of the leaves and of the root of the aconite plant. The United States Pharmacopœia of 1880 made a distinct advance in dropping the leaves from the list of drugs, for their retention would have been liable to lead at any time to errors the same in kind, if not of so serious a degree, as those that are to be feared from confounding the amorphous with the crystalline forms of aconitine. To be sure, our pharmacopœia defines aconite no more strictly than as the tuberous root of *Aconitum napellus*, without specifying in what locality it should be gathered or at what time with reference to its period of flowering, both of which factors exert a considerable influence in determining the activity of the drug; but such directions are hardly practicable, as was pointed out by one of the speakers at the meeting to which reference has been made, since it is out of the question to compel every pharmacist to gather his own aconite. These facts, indeed, are to be taken as enforcing the lesson of the caution it is necessary to observe in the use of so potent and at the same time so variable a drug as aconite.

THE TRICENTENARY OF THE UNIVERSITY OF EDINBURGH

As is announced elsewhere in this issue of the journal, the current month is to witness ceremonies in the old city of Edinburgh commemorative of no less an event than the founding of the university. Although at the time when the university was founded, three hundred years ago, America was a wilderness, perhaps it is due to this very fact, coupled with the reflection that at that time the homes of all our ancestors were on the other side of the Atlantic, that we Americans feel such a keen interest in what is going on among our European brethren, even under ordinary circumstances. But the occasion in question can not be called ordinary, in so far as the medical profession of this country is concerned, for the unusual occurrence is to take place of the conferring of honors by a European institution of learning on members of the American medical profession.

We may use the word unusual without at all losing sight of the decorations of Sims and Sayre, or of the graceful compliment paid to American medicine by the Universities of Oxford and Cambridge when they conferred the degrees of doctor of civil law and doctor of laws on the venerable Professor Gross. Unless we are mistaken, however, this will be the first instance in which the University of Edinburgh has given an honorary degree to a representative of the American medical profession. Assuredly, there can be but one sentiment felt as to the fitness of the choice it has made of the men, Professor Fordyce Barker, of New York, and Dr. John S. Billings, of the army. In distinguished and honorable careers both these gentlemen have fairly won the dignity shortly to be conferred upon them, and, while we all feel it as a welcome recognition of our profession in America, we can not allow the modesty of Dr. Barker and Dr. Billings to impute it wholly to any such general sentiment—it is due not alone to their representative character, but in great measure also to their individual qualities.

It is not altogether, or even chiefly, Professor Barker the obstetrician, however highly they may esteem his teachings

and his attainments in this particular branch of medicine, but Fordyce Barker the man, that our Edinburgh friends have long since taken to their hearts, and are now only about to clothe with the formal token of the fact. And so it is with Dr. Billings—abroad, as well as at home, he is known as something more than the bibliographer, great as his achievements are acknowledged to be in that capacity; it is partly as a sanitarian, but above all as a man of broad conceptions of the scope of medicine, endowed with the wit and the kindness to make those conceptions felt forcibly and accepted willingly, that he is esteemed. Both these gentlemen are now on their way to Edinburgh, and we are sure that in their pilgrimage they carry with them something more than the admiration of their fellows left behind, rather their affection.

THE COUNTY SOCIETY'S "COLLECTIVE INVESTIGATION."

CONSIDERABLE interest ought to be felt in the adjourned meeting of the Medical Society of the County of New York, to be held next Monday evening, for the special order of business is the report of the committee in charge of the society's first "collective investigation of disease." The chairman of the committee stated at the regular meeting that about fifty cases of the affection that is the subject of the inquiry—intestinal obstruction—had been reported, in response to the circulars sent out, all of which, he added, were "very interesting" and would be "worth listening to." This guarded statement can not be said to shadow forth a very flattering prospect, and we may be allowed to express the hope that the session will not be given up to the mere reading of fifty or more clinical histories. What the society has a right to expect of the committee, we imagine, is a critical digest of the material it has succeeded in getting together—what our French brethren would call an *appréciation*.

Taking as the phrase "collective investigation of disease" has shown itself to be, the process seems to us to be one that may very readily degenerate into a mere assembling of undigested facts, on the one hand, or a slight variation of ordinary statistics, on the other, neither of which games we are inclined to regard as "worth the candle." However, much may be excused on the occasion in question, for the subject chosen is one upon which it must be difficult for most of the members to speak positively from personal knowledge. If, then, the committee succeeds in giving more definite shape to our ideas of intestinal obstruction, it will be entitled to a great deal of credit.

THE PROPOSED INCORPORATION OF THE COLLEGE OF MIDWIFERY.

IN connection with the minority report of its committee, adopted by the Medical Society of the County of New York at its last meeting, the full text of which we give on another page, some mention seems to be called for of a bill that has been pending for some time before the Legislature for incorporating the College of Midwifery in the City of New York. At the time

this institution was established we took occasion to commend its purpose; but since then, as our readers are aware, it has laid itself open to condemnation at the hands of the profession for having issued a remarkable pamphlet entitled "Woman's Work in the Field of Medicine." Apart from the bad taste that characterized the pamphlet, it tended to give the impression that the institution had the right to confer the degree of "graduate in midwifery," and, by implication, that it was the only institution in the State which possessed this right.

This bill, now passed by both houses of the Legislature, and on the eve of becoming a law, is as bad a bill as could well be imagined, as it provides no guarantee of the quality of instruction to be given, or that improperly fitted persons will not be turned out as midwives. We understand that the attention of the Committee on Legislation of the Medical Society of the State of New York has been called to this measure; but, so far as we are aware, no effort has been made by the committee to prevent its becoming law. Unless the committee is careless of the interests of the profession throughout the State to an extent that we are not prepared to believe, we can not understand its failure to interfere in the matter.

TWO NEW CARDIAC POISONS.

WOORARI seems in danger of being outdone as a cardiac poison, if we may judge from the accounts lately given before the Paris *Société de Biologie* of two new oriental arrow-poisons. A specimen of one of these poisons was presented by M. Boche-fontaine, as we learn from a report of the meeting published in the "*Progrès médical*." It was said of this poison that an animal of medium size, wounded with an arrow the point of which had been imbued with it, would make one bound, and then fall dead; and that even an elephant would succumb after running no more than a kilomètre. The composition of the poison is not known, being kept a dead secret by the Moïs, from whom it was only by subterfuge that the specimen shown at the meeting was obtained. Taken into the stomach, the substance is said to be innocuous. One milligramme, injected under the skin of a frog, produced death within ten minutes, the heart being arrested in systole, and the reflexes persisting for a time. One of the speakers gave it as his opinion that the poison was probably obtained from the *Upas antiar*.

The other substance, shown by M. Laborde, was termed elephant poison (*poison d'éléphant*), and came from Borneo, where the inhabitants employ it for poisoning their arrows. Experiments on dogs have shown that this substance also kills by arresting the heart's action, but whether in systole or in diastole we are not told.

Two new poisons, then, are before the profession for investigation, and this will have to be directed both to their constitution and to their physiological actions. But it must be confessed that the prospect of any notable advantage accruing to therapeutics from such research is remote, while the difficulty of obtaining the substance first mentioned stands in the way of the extended series of experiments necessary before precise conclusions can be arrived at.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 1, 1884:

DISEASES.	Week ending Mar. 25.		Week ending April 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	3	2	8	5
Typhoid Fever.....	6	0	5	3
Scarlet Fever.....	83	15	96	12
Cerebro-spinal meningitis.....	9	8	6	5
Measles.....	72	9	68	9
Diphtheria.....	21	15	42	16

TRICHINIASIS IN PENNSYLVANIA.—A newspaper report from Pittsburgh states that trichiniasis caused a death in Westmoreland County last week, and that six persons were dangerously sick with the same affection.

WHOOPING-COUGH HOSPITALS.—The "Medical Times," of London, calls attention to the excessive mortality from whooping-cough in that city for a number of weeks past, and advocates the establishment of half a dozen small hospitals for children affected with the disease, where they can "be rigidly kept in a temperature like that of a southern health resort."

THE NEW SURGEON-GENERAL OF THE NAVY.—The Senate has confirmed the appointment of Medical Director Francis M. Gunnell as Surgeon-General and Chief of the Bureau of Medicine and Surgery of the navy.

THE SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE.—At the next meeting, to be held Thursday evening, the 10th inst., at the Hall of the Academy of Medicine, No. 12 West Thirty-first Street, Dr. J. Henry Fruittight will read a paper entitled "The Status of the Midwife, Legal and Professional."

THE MEDICO-LEGAL SOCIETY will hold its next regular meeting Wednesday evening, the 9th inst., at No. 64 Madison Avenue. Dr. C. H. Hughes, of St. Louis, will read a paper on "Moral (Affective) Insanity," and another will be read by Dr. J. G. Johnson, of Brooklyn, on "Poisoning by Canned Fruits and Meats."

THE TENNESSEE STATE MEDICAL SOCIETY will hold its fifty-first annual meeting at Chattanooga, on Tuesday, the 8th inst.

THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA will hold its seventeenth annual meeting at Clarksburg, beginning on Wednesday, May 21st. The secretary, Dr. S. L. Jepson, of No. 81 Twelfth Street, Wheeling, asks that gentlemen who intend to read papers at the meeting send him the titles of their papers as early as possible.

THE UNIVERSITY OF CAMBRIDGE, according to the "Medical Times," of London, will shortly elect a professor of pathology and four medical and surgical lecturers, one of them to take the subject of midwifery. The "Lancet" learns that Dr. Joseph Coats, of Glasgow, is a candidate for the position first mentioned.

THE JEFFERSON MEDICAL COLLEGE, OF PHILADELPHIA, held its fifty-ninth annual commencement on Friday of last week, graduating a class of two hundred and fifteen gentlemen. The valedictory address was given by Professor John H. Brinton.

THE HARVARD MEDICAL SCHOOL.—The "Evening Post" says: "Three students of the Harvard Medical School who last week passed their examinations are not happy. One wrote an excellent set of papers, the other two [sic] copied them word for word, and the examiner ranked them at 98 per cent. He

remarked, however, that, as the three papers were identical, this gave the three but about 33 per cent. each, and, as 50 per cent. is required for a diploma, all three were plucked."

THE STATE LEGISLATURE.—Bills have been reported incorporating the New York Cancer Hospital, incorporating the Good Samaritan Dispensary in New York, and legalizing all degrees and diplomas granted by the United States Medical College. The bills to make the Health Officer of the Port of New York a salaried officer and to enable testators to prove their wills during their lifetime have been reported adversely.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 23, 1884, to March 29, 1884:*

HAMMOND, JOHN F., Colonel and Surgeon, now in New York city on sick leave of absence, will, after the expiration of his sick leave, await orders in that city. Par. 8, S. O. 70, A. G. O., March 26, 1884.

GANDY, CHARLES M., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Brady, Mich., as Post Surgeon. Par. 6, S. O. 56, Headquarters Department of the East, March 22, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending March 29, 1884:*

GREEN, E. H., Passed Assistant Surgeon. Ordered to the Greely Relief Steamer Thetis.

MAESTLER, E. H., Passed Assistant Surgeon. Ordered to the Receiving Ship Colorado, New York.

BRYAN, I. H., Passed Assistant Surgeon. Resigned, to take effect April 10, 1885, with leave of absence till that time, and permission to leave the United States.

RUSH, C. W., Passed Assistant Surgeon. Ordered to the Naval Academy.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, April 7th:* New York Academy of Sciences (Section in Biology); Medical Society of the County of New York (adjourned meeting.—Discussion on Intestinal Obstruction); Medico-Chirurgical Society of German Physicians; Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association.

Tuesday, April 8th: New York Surgical Society; New York Medical Union (private); Jersey City Pathological Society; Newark, N. J., Medical Association; Trenton, N. J., Medical Association; Medical Societies of the Counties of Jefferson, Oneida, Ontario, Rensselaer, Tioga, Ulster, and Wayne, N. Y., Bergen (annual) and Cumberland (annual), N. J., and Fairfield, Conn.

Wednesday, April 9th: New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Cayuga, N. Y.; Tri-States Medical Association (New York, Pennsylvania, and New Jersey—Port Jervis, N. Y.); New York Medico-Legal Society.

Thursday, April 10th: New York Laryngological Society (private); Society of Medical Jurisprudence and State Medicine; Harlem Medical Association (private); Brooklyn Pathological Society; Medical Society of the County of New London, Conn. (annual).

Friday, April 11th: Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, April 12th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

DR. J. HALL DAVIS, OF LONDON.—Our London exchanges announce the death of Dr. Davis as having taken place on the 19th

ult., rather suddenly, although for sometime he had been in failing health. For a number of years he had held the appointment of obstetric physician to the Middlesex Hospital, a position which he did not resign until within a week of his death. He was at one time the president of the Obstetrical Society, of which he was an honorary member at the time of his decease. Dr. Davis was favorably known in this country by various contributions to periodical literature.

DR. JAMES KENNEDY.—Dr. Kennedy died last Saturday, at the age of eighty-four years. He was a Scotsman by birth, but had lived in this country since 1827. He was a licentiate of the Medical Society of the State of New York, and had received the honorary degree of M. D. from the medical college at Castleton, Vt. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, and of the Society for the Relief of the Widows and Orphans of Medical Men, and for many years had been a surgeon to the Police Department.

DR. JONATHAN A. WHITE, OF BROOKLYN.—Dr. White died last Sunday, in Macon, Ga., in his fifty-fourth year. He was a native of Massachusetts and a graduate of the medical department of the University of Vermont. He was a member of the Medical Society of the County of Kings and of the New York Physicians' Mutual Aid Association.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 25, 1884.

CHARLES MCBURNEY, M. D., Vice-President, in the chair.

LARGE TUMOR OF THE THIGH.—Dr. JAMES L. LITTLE presented a man, forty-eight years of age, whose horse had reared and fallen upon him while he was in the army, twenty years ago, the pommel of the saddle inflicting a contusion on the inner aspect and about the middle part of the left thigh. An inflammatory swelling followed which lasted from the 23d of June until winter, and then disappeared entirely. Five years afterward a swelling occurred up and down the thigh, along the site of the original injury, which gradually increased until it reached its present size. The circumference of the right thigh was now nineteen inches; that of the left thigh, around the tumor, was thirty-one inches and a half. The swelling was painless and movable, and Dr. Little regarded it as a lipoma, and also thought it was a proper case for operation.

Dr. A. G. GERSTER inquired whether the tumor had been punctured, and the patient replied that only small needles had been introduced, but the aspirator had not been used. Dr. Gerster recalled a case of a tumor of this kind, situated in the same locality, that came under his observation at Mt. Sinai Hospital four years ago, in which the diagnosis of cyst was made after puncture, but in which the swelling finally proved to be an old abscess. It seemed to him that the tumor in Dr. Little's case was pretty well outlined by the entire extent of the adductor muscles. He was unable to find any lobulation, such as usually existed in lipoma, and he believed that, in order to make the diagnosis clear, it would be very important to make a puncture. The contents of the tumor to which he had referred contained an enormous quantity of cholesterol crystals. It had occupied five years in developing, its growth was very gradual,

and there was an early history of very severe pain in the thigh. Excision of the tumor was attempted, but, when he reached what was supposed to be the capsule, it was found to be simply a pyrogenic membrane closely attached to the inner surface of the adductor muscles. A very large quantity of peculiar shining liquid was evacuated, which contained cholesterol crystals and detritus. Specimens of the fluid removed by puncture prior to the operation were submitted to two microscopists, one of whom diagnosticated undoubted ovarian tumor. After having evacuated the contents, he found floating in the cavity a small solid body, which proved to be a portion of the cortical substance of the femur, from the vicinity of the small trochanter, and examination of that locality revealed a slight depression. He concluded that a cortical necrosis with myelitis had taken place five or six years before, that a sequestrum was released and became the point around which an abscess formed, that the original site of the osteo-myelitis had healed, and that the old abscess continued to exist with its pyrogenic membrane, gradually increasing to the size of the apparent growth. The man recovered entirely.

Dr. LITTLE said that, in February last, he operated on a tumor of the thigh similar to the one just described by Dr. Gerster, which was very large, and which moved with every movement of the muscles. On tapping, a shining yellow fluid was removed, which was filled with cholesterol crystals. The sac was laid open and the inner surface of the cyst was found to be covered with granulating material, which was scraped off, and the case did well. It was supposed to be the result of an old abscess. Antiseptic precautions were used.

Dr. T. M. MARKOE said that, from the feel of the growth, he should doubt whether it was a cystic tumor. He found that it was beneath the fascia lata, and that it was continuous with the adductor tendons below, which passed to the inner side of the tumor and formed a part of its internal surface. That fact alone would induce him to doubt whether it was a fatty tumor. Another feature which led him to doubt its being a fatty tumor was the fact that no corrugation of the surface was seen when it was pressed together, a feature almost characteristic of lipomatous growths. He was inclined to regard it as a form of sarcoma.

Dr. GERSTER thought that the length of time which the tumor had existed spoke against its sarcomatous character, and remarked that there was also a notable absence of any systematic disturbance.

Dr. LITTLE remarked that he had removed one fatty tumor much larger than this one, situated in the same locality.

Dr. C. K. BRIDDON said that, some ten or fifteen years ago, he saw a tumor like this in the gluteal region, which was influenced by some of the muscles arising from the pelvis and inserted into the femur. In that case he used the aspirator, as he thought, for the first time it was used for this purpose in this city, and the results were negative. Supposing it to be a fatty tumor, he made a long incision for its removal, but it turned out to be abscess with a very thick covering, which prevented fluctuation from being detected.

Dr. MARKOE said a form of tumor had been described by Paget as fibro-cellular, the histological type of which was loose areolar cellular tissue, infiltrated with serum, etc., which might attain an enormous size, and yet possess none of the elements of malignancy. He thought the tumor in Dr. Little's case corresponded more nearly to that form of growth than to any other.

OCCLUSION OF THE NOSTRIL FROM DEVIATION OF THE SEPTUM.—Dr. ALFRED C. POST presented a patient upon whom he had operated two weeks ago the preceding Friday for occlusion of the right nasal cavity from deviation of the septum. There was at the same time a periostosis of the nasal process of the

superior maxillary bone. He separated the side of the nose from the cheek and turned it over, in order to get access to the obstruction, and then removed the protruding part of the septum and some of the superfluous superior maxillary bone. The nose was then turned back and secured, and the traces of the incision would not be sufficient to attract the attention of casual observers. The occluded nostril was now quite free. It was probably a congenital deviation.

The VICE-PRESIDENT remarked that such deviation usually occurred toward the other side.

Dr. HENRY B. SANDS had performed the same operation, and found that it was very much facilitated by the separation of the ala nasi. He did not open the septum, but removed the projecting cartilaginous swelling and some bony growth situated along the floor of the nostril, and the patient recovered without deformity.

Dr. Post said he had, in several cases, divided the columna nasi, where the deviation did not extend so high up, which facilitated the operation very much, and on closing the columna no deformity remained.

DOUBLE RUPTURE OF THE TENDON OF THE QUADRICEPS FEMORIS.—Dr. MARKOE presented, in behalf of Dr. ROBERT F. WEIR, a patient, seventy-two years of age, who had ruptured the quadriceps tendon of each patella. There was the usual depression immediately above the upper margin of the patella, abrupt on both sides. The accident was caused by slipping upon a piece of ice, one knee giving way and the other tendon rupturing almost immediately afterward. There was not only the depression immediately above the patella, but also the sharp edge on either side, indicating where the aponeurosis had not been ruptured. There were, therefore, two strong fibrous bands left which enabled him to make some extension of the leg at the time of the injury. A good deal of extravasation of blood occurred about the parts. The patient was treated by placing the limb in a straight position. A large amount of effusion took place into one knee joint, but in the other not very much inflammatory reaction showed itself. The injury occurred three months ago, and the patient was now able to walk slowly. Both tendons had united equally well.

FRACTURE OF THE HUMERUS AND SCAPULA, COMPLICATED WITH SEVERE INJURY OF THE ENTIRE BRACHIAL PLEXUS, FOLLOWED BY PARALYSIS.—Dr. GERSTER presented a boy, eight years of age, who was run over by a wagon December 10, 1883. The exact mode of injury was unknown. It was alleged that immediately after the injury he could clinch his fist. He saw the patient for the first time ten days after the injury, and found an anæmic boy, with the pectoralis and serratus region widely suffused and discolored. The arm-pit was filled by a hard mass (coagulum), which caused a curious bulging of the right pectoral region. Fracture of the upper third of the shaft of the humerus was easily made out, but a lengthening of the arm, with a wide displacement of the head of the humerus from the acromion, accompanied by local crepitus, and also the fact that this deformity could be easily reduced but immediately reappeared, made the diagnosis of fracture of the neck of the scapula clear. There was absence of both brachial and radial pulse, also paleness of the extremity, with no œdema, but absolute motor and sensory paralysis of all the branches of the brachial plexus. The fracture of the humerus was dressed with three pasteboard splints, but the fracture of the neck of the scapula presented no easy problem. Finally it was found that the fragments could be best retained in position by raising the splinted arm by the bend of the elbow on a series of turns of a bandage wrapped over the shoulder of the same side, fastening all these turns by a series of turns passed around the thorax and by a loop of bandage passed around the neck over to the other axilla. At the end of

three weeks there was consolidation, with slight deformity of the humerus. The deformity was due to the necessity of lifting the shoulder by the elbow. The fracture of the neck of the scapula still showed crepitus, and therefore the bandage was continued. A pressure-sore developed over the olecranon. The deltoid, the triceps, and the biceps showed no faradaic irritability on January 15th. The sensibility of the skin showed a marked variation—one day it extended down to the upper part of the forearm, to disappear three or four days after up to the middle of the arm. The first nerve to show constant improvement was the musculo-cutaneous; the most tardy was the musculo-spiral. From the tenth day after the injury neuralgic pains were felt by the patient which were directly located in the palm of the hand. Pressure in the deep portion of the axilla caused intense pain up to the eighth week, when most of the large blood-clot had been absorbed. At the same time choreic, jerky contractions of both shoulders and the head began to be developed, which very soon yielded to the administration of Fowler's solution, continued for about six weeks.

In spite of frequent readjustment of the bandages, and much care, it was very difficult to retain the outer fragment of the scapula exactly in a correct position. This, and the absence of a sufficient protection of callus usual at this place, resulted in a ligamentous union, with slight deformity but good function. In the fifth week the hand became puffed up, reddish-blue, and much colder than the other, the nails showing a deeper tinge. By the middle of February the deltoid, the biceps, the brachialis internus, and the triceps began to respond to the will, but not to faradization, a circumstance first observed by Erb, and confirmed by others; on February 26th they contracted on faradaic irritation. Supination and pronation were first observed on March 11th, supination being less complete than pronation. On the same day flexion of the digits, excepting the thumb, was fully noticed. To-day flexion of the fingers and thumb was well marked, extension was very incomplete but noticeable, and the prognosis seemed to be decidedly hopeful. The flexors responded very well to galvanic, sluggishly to faradaic, irritation. The radial pulse was still absent.

It seemed fair to conclude, from the injuries observed and the neurotic symptoms following them, that the plexus brachialis must have suffered a very severe contusion and laceration by the displaced fragments. The statement, voluntarily made by the relatives, that the hand could be clinched shortly after the injury, seemed to indicate that no rupture of the radial and median nerves could have taken place. No special treatment with regard to the nerve-lines was instituted, attention being chiefly directed to maintaining a good general condition.

CONTUSION OF THE RADIAL NERVE.—Dr. GERSTER also exhibited another patient, who had had an injury of the radialis, caused by the fall of a heavy board on the lower portion of the posterior aspect of the arm. The patient was unable to extend the limb, and there was also the characteristic paralysis of the radialis accompanied by a flabby condition of the forearm. It was of three weeks' standing. The contusion was of the arm above the elbow.

Dr. MARKOE related a case which was pertinent to the history of the injury and subsequent progress of Dr. Gerster's first case, occurring in a gentleman forty years of age, who was run over by a carriage. Precisely how he was struck, or how he struck when he fell, it was impossible to ascertain. Dr. Markoe found fracture of the surgical neck of the humerus, which was oblique in such a manner that the upper end of the lower fragment projected into the axilla at a high situation. He was very much disturbed to find that there was no radial pulse, and there was absolute loss of sensation and motion below the middle of the arm. The hand was blue and cold, and for twenty-four

hours he apprehended the occurrence of gangrene, but this did not occur, although no brachial or radial pulse returned, and their absence had been permanent. From the time of the injury, paralysis of the muscles of the forearm was complete. Anaesthesia manifested itself particularly along the distribution of the ulnar nerve, which could be mapped out perfectly by the distribution of the paralysis, the latter being absolutely complete. After a time the patient was able to make slight flexion and extension of the fingers. He had not been able to flex the thumb. The trophic changes had been precisely as usual in these cases; the limb presented a glossy, puffy condition, and the palm of the hand particularly had exhibited a good deal of perspiration.

Appreciating that there was considerable displacement of the fragments toward the axilla, Dr. Markoe endeavored to reduce them as well as possible, but he did not dare to place any splint on the inner side of the arm, lest he should increase the injury already done by the fragment, and therefore applied a very thin pad in the axilla, leaving the arm steadied against the side of the thorax, and supporting the elbow. The case had gone on through such a history as had already been given by Dr. Gerster. In the fourth week neuralgic pains began, which were very severe and were referred especially to the palm of the hand, but extended along the ulnar side of the forearm, down the fingers, and along the dorsal aspect of the radial side. At the present time the bone was not firmly united. From the lack of support on the inner side of the arm, one unfortunate result had occurred, namely, the pectoralis and latissimus dorsi had drawn the fracture toward the chest, and pressure upon the parts in the axilla still existed to a considerable extent. Although the symptoms of paralysis had become modified, Dr. Markoe was still at some loss to know what to do further in the treatment of the case. He had used faradization only, but proposed to use the galvanic current after further trial of the faradaic. Dr. Weir Mitchell had obtained remarkable results in the treatment of the neuralgic pain so common in such cases by the use of stimulating applications to the parts to which the nerves were distributed, and had applied blisters successfully. Dr. Markoe had used strong liniments in his case for the relief of neuralgic pains, and with considerable benefit.

Dr. Post had seen cases of traumatic paralysis which had been promptly benefited by the application of moxas, either along the course of the paralyzed nerves or near the seat of injury. He had also seen marked relief follow the use of the actual cautery.

SUBCORACOID DISLOCATION OF THE HUMERUS; PARALYSIS OF THE SERRATUS MAGNUS; ARTHROTOMY.—Dr. GERSTER also presented a patient, Jennie M., twenty years of age, who had been thrown violently against a tub and sustained a subcoracoid dislocation of the humerus. The nature of the injury seemed to have been overlooked by some physicians who saw her shortly after the accident, since they treated it with liniments and electricity. Seven weeks after the injury the patient came under Dr. Gerster's care at Mt. Sinai Hospital. The diagnosis of dislocation, complicated with marked paralysis of the serratus of the corresponding side, was readily made out. Reduction did not offer the least difficulty, but the weight of the extremity alone was sufficient to cause the reappearance of the dislocation. The reduced humerus was kept in a normal position for five weeks by means of an ample plaster-of-Paris dressing enveloping the arm, shoulder, and thorax. When it was removed it was found that the tendency to the reappearance of the dislocation was unchanged, wherefore operative relief was sought for.

Arthrotomy by the anterior incision was performed on December 11, 1883. It was found that the inner aspect of the joint capsule, the side facing the axilla, was abnormally relaxed,

and therefore a piece an inch long and half an inch wide was excised from it while the arm was forcibly rotated outward. A counter-incision was made into the posterior part of the capsule, for drainage, and capillary drainage by a fascicle of catgut strands was established. The anterior wound was closed by sutures. Examinations made post mortem had revealed that, in a state of dislocation, the distance between the glenoid cavity and the apex of the head of the humerus was fully one inch.

Six hours after the operation very alarming septic fever set in, with a temperature of 103° F., and great sickness and dejection. Although no local signs of disturbance were visible, Dr. Gerster deemed it prudent to remove the stitches, open the wound, and seek for the cause of the infection. Among the seven catgut ligatures applied, three were found to be much thickened, turbid, and infiltrated with and surrounded by an areola of pus. The remainder of the wound was found to be normal, the rest of the ligatures being slightly thickened, but transparent. Suspecting the quality of the catgut used for the capillary drainage of the joints, the fascicle was likewise removed and replaced by a rubber drainage-tube. The wound was treated openly, the temperature fell to normal, and the case progressed favorably. The tube was removed at the end of the second week, and the wound healed at the end of eight weeks. Healing was retarded by an attack of erysipelas commencing from the opening made for the drainage-tube at a time when healing was nearly complete. The function of the joint was now fair, and promised to improve and become normal, since its mobility was considerable now, although very little orthopaedic treatment has been employed.

FRACTURE OF THE PATELLA.—Dr. F. LANGE presented a man, sixty-two years of age, who illustrated the usefulness of a limb after fracture of the patella, in spite of a distance of three inches between the fragments. The patient had had fracture of the patella several times. The last time the injury occurred three or four years ago, and there was also rupture of the crucial ligaments, as shown by superextension of the knee joint and great lateral mobility. The plan of treatment which Dr. Lange adopted was similar to that recommended by Dr. Little, and the immediate result was very good; but after a time the gap between the fragments began to increase, and afterward became quite extensive, measuring now three inches; yet the patient was able to walk quite well, could go up and down stairs, and could extend the limb very well.

CHOPART'S OPERATION.—Dr. McBURNEY presented a patient with the following history: William Burke, aged thirty-three, was admitted to Bellevue Hospital, December 25, 1883, suffering from severe frostbite of the extremities of both feet. The feet were dressed with soothing applications, such as charcoal poultices, up to January 17, 1884. On that day Dr. McBurney operated upon the feet; upon the right removing the toes only, at the metacarpophalangeal articulations; on the left doing Chopart's amputation at the medio-tarsal articulation. The feet and legs were first thoroughly cleansed with a solution of iodoform in ether, and irrigation with the bichloride solution, 1 to 1,000, was kept up throughout. Catgut ligatures were used, and a continuous catgut suture was applied to skin wound. A single bone drainage-tube was passed through at the base of the flap from one side to the other. The wound was covered with protective, dusted with iodoform, and enveloped in carbolized gauze and cotton, *great care being taken to force the astragalus and os calcis into extreme flexion.* To aid this effort a pasteboard splint was applied to the back of the leg and to the lower surface of the stump outside the dressing, and firmly bandaged so as to maintain the position of forced flexion. The highest temperature reached by this patient after the operation was 100° on two evenings.

The first change of dressing was made fourteen days after the operation at Dr. McBurney's clinic. The drainage-tube had disappeared, and the wound had completely healed without a drop of pus. At one point there was a minute, pin-head point of granulation.

Dr. McBurney added that, some months ago, he had reported to the society a case of Chopart's amputation, and in the discussion expressed the opinion that sufficient attention was perhaps not paid after this operation to the position given to the stump. If the stump was left to itself, the powerful extensor muscles on the back of the leg would inevitably draw the posterior end of the os calcis upward, and thus allow the cut tendons of the anterior muscles to attach themselves too far up on the astragalus. He wished to call the attention of the society to the fact that this patient could flex his short stump very freely, and that when he walked the stump had no tendency to point downward.

CASES OF EXCISION OF THE KNEE JOINT, WITH REMARKS.—Dr. McBurney then read a paper with this title. [See p. 381.]

Dr. C. T. POORE had excised nine knee joints in children varying from four to sixteen years of age, and had had good results except in two cases. In one of these the patient died six months after the excision, of abscess bursting into the lungs, from disease of the dorsal vertebrae; in the other, the child would probably die from chronic brain trouble. In the first case the consolidation of the bone was firm at the time of death; in the second, union was not firm at present. In two cases he had had the same secondary complications: in one case, necrosis of a small portion of the external aspect of the femur; in the other, of the outer portion of the head of the tibia. Recovery took place in both cases after the extraction of the sequestrum.

He had also experienced trouble from collection of pus in the synovial sac above. In some of his cases there had been more shortening than in Dr. McBurney's cases, but he thought part of it was due to atrophy of the limb from disuse. He did not think the bad issue in the two cases was due to the operation, but to the general condition of the patient. He had not seen very high temperature in any of his cases after operation. He always suspended the limbs in the after-treatment, because he thought he could take care of his patients better in this way, and it was more comfortable for them.

Dr. McBurney would like an expression of opinion as to the importance of wiring the bones together or introducing nails. He had come to the conclusion that it was not important. It seemed to him that the introduction of wires or nails, even with careful antiseptic precautions, had considerable disadvantages, as shown in several cases in which he had operated, the disadvantage being constant irritation where the wires had been brought out through the skin. The wires, however, might be buried, and the chances taken with reference to their exciting irritation. He thought the leverage of the leg was too great to allow small wires in soft bones to resist any strain upon the parts, and even where nails had been introduced, as he had understood, they had become loosened long before any firm adhesions had taken place between the bones, except perhaps in young patients.

Dr. LANGE thought that, in using nails, coaptation of the surfaces was much more intimate than it would otherwise be, and he also thought that this intimacy of coaptation secured a greater certainty of bony union than by resorting to any other method of uniting the bones. He believed, from the results of those who had resorted to this method more extensively, that the coaptation was so accurate that bony union was secured in a comparatively short time. He had found that the nails were somewhat loosened in the fourth week after the operation. But that still

they were so fixed that it required considerable force to pull them out, and that even at that period they contributed somewhat to fixation. In case we were obliged to change the dressing, the coaptation of the bones which had been secured by nails or wires remained during the change of the dressing much more accurate than when they were treated by measures which kept the coaptation less firm and accurate. This question, perhaps, was not so important now as formerly, since we had become accustomed to using permanent antiseptic dressings, so that the limb might remain untouched for months or even longer.

With regard to the advisability of excision of the knee joint in such young patients, there was always so much shortening of the limb that he was inclined to the opinion that where excision of the knee joint in a child could be avoided it was well to do so, and try to repair the injured bones without opening the joint and searching for tubercular disease, if altogether the case was such as to make this plan of treatment practicable. He had succeeded in this way in one case. In other cases the disease had been so extensive that a more extensive operation was necessary. In one case the result was a very good one, and he thought that a better chance was given for the development of the limb than would have been afforded if excision had been performed. So far as he knew, the limb might be shortened six or eight inches, so that entire disfigurement of the patient might occur in this manner.

With regard to prognosis, he thought it was much better in those cases in which ankylosis existed than in those in which fungoid disease was present. He had tried in some cases to obtain freer access to the synovial pouch by adding a longitudinal incision as high as the extension of the articular surfaces. The more fully the parts were exposed and search made for diseased synovial membrane, the more one was apt to find that small abscesses existed in the capsule and about the joint, where there were cheesy foci which explained the persistent fistula.

Dr. L. M. YALE referred to a case which had a bearing upon the question of bony union. It occurred about twenty years ago, and the operation was done by the late Dr. Enos, with the result of obtaining apparently bony union. Some time after leaving the hospital the patient fell and was brought back, when it was found that the cicatrix had torn like a piece of cloth, and the bones had separated at the line of excision. On examination, it was found that there had been partial union of the bone, as shown by what might be called stalactites running from one cut surface into the other, but at the same time the flat, sawed surfaces of the bones had united in some places by these bony prolongations, while in other places they had not. Dr. Yale replaced the limb as nearly as possible in the straight position, and the boy made a good recovery, with somewhat greater flexion than existed before the receipt of the last injury.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

PATHOLOGICAL SECTION.

Meeting of February 14, 1884.

The President, Dr. WESTBROOK, in the chair; Dr. LEUF, Secretary.

PHthisis and GASTRIC ULCER, with LOBULAR KIDNEY.—Dr. J. Y. McGAY presented specimens, and spoke as follows:

A male, twenty-four years, single, book-keeper, and born in this country, was treated about two years ago by Dr. George H. Atkinson for gastric ulcer, at which time he also had gastrorrhagia. He was under the doctor's care for several months, and received considerable relief. Then he removed to New Jersey

and put himself under the care of an irregular. During this period he gradually grew worse. Symptoms of phthisis began to manifest themselves at this time. He came under my observation about four months ago. I found that the left lung was more or less affected throughout its whole extent, as was also the apex of the right lung. Also had fever, colliquative sweats, and characteristic expectoration, with more or less cough. In addition, he had daily attacks of gastrorrhagia. There were tremendous epigastric pain and vomiting after eating anything, not even excluding the blandest foods—as oatmeal, rice, beef-tea, etc. Treatment consisted in immediately stopping all food and medicine by the mouth. His sweats were relieved by atropine hypodermically, and his cough by morphine similarly given. He received by the rectum four times a day 5 j of Reed & Carnrick's beef peptonoids dissolved in a tumblerful of luke-warm water, with gr. x of tinct. opii and 3 ss. of pepsin. This was kept up for six weeks, the patient not even swallowing 3 j of liquid of any kind, including water. The pain in the epigastrium began to disappear at once. At the end of six weeks I began to feed him with pancreatized milk by the stomach without its being followed by any bad results. Solid food was gradually introduced without any gastrorrhagia or other bad effect. He regularly became hungry and thirsty, but was relieved by the rectal feeding. Occasionally, if very thirsty, he was allowed to let some ice melt in his mouth, but always spat out the water resulting from its melting. Strange to say, about two weeks after beginning to feed by the stomach, his pulmonary trouble began to manifest itself very prominently, ran a rapid course, and resulted in his death in about a month. He was much emaciated at the time of death, but had gained in weight and strength during the time of rectal feeding. The autopsy revealed the following: There were marked pleuritic adhesions all around on both sides of the thorax. The left lung was considerably congested, especially toward its upper part. Several small emphysematous patches were found superficially on the posterior surface of its lower lobe. The apex did not crepitate, and contained many tubercular deposits, several of which had broken down and thus formed small cavities. One, however, measured about 2.5 cm. in its longest diameter, and was filled with detritus. The right lung was greatly congested, the lowest lobe being almost completely hepatized. The whole organ was more or less infiltrated with tubercle, and its cut surface was dotted with small cavities, most numerous at the apex. The heart was normal. There was an ante-mortem clot of about one half the size of an ordinary hen's egg in the left ventricle. The liver weighed 1.6 kilogramme, was congested, and very friable. The stomach was normal in size, and contained about 90 c. c. of a thick, whitish mucous fluid. The mucous membrane was of a pale-gray color at the cardiac end, but of a reddish color over the remainder of its surface, increasing in proportion as it neared the pylorus. On the mucous membrane, at the back part of the pyloric extremity, were to be seen three or four cicatrices, varying in size from 0.5 to 2 cm. in diameter. They marked the site of the ulcers from which the patient had suffered. The whole mucous membrane was thickened and softened. Both kidneys were normal. The left was a little larger than the right, and the latter was slightly lobular, in consequence of an unobliterated shallow furrow extending across the organ on its surface.

The case was discussed by Dr. WALLACE, Dr. THALLON, and Dr. McGAY.

CANCER OF THE LIVER.—Dr. WALLACE showed the specimen, and made the following remarks:

This case was that of a male, sixty-three years of age, and a very interesting case from a pathological standpoint. This case was attended throughout the greater part of its duration

by Dr. George Wackerhagen, of State Street, and probably received the best and most skillful course of treatment that could have been adopted. It is to Dr. Wackerhagen that I am indebted for the specimen. He requested me to make the post-mortem examination, which I did on the 8th of October, 1883, twenty-four hours after death.

The history of the case is as follows: In the early part of June, 1883, the patient was unwell, and grew gradually worse, until near the end of the month, when he became so much worse that he determined to go to Richfield Springs, in order to see if the change of air, etc., would not be beneficial to his health. He remained there through the month of July, and, as he got no better, but rather grew worse, he returned home on the 1st of August. While at Richfield Springs he vomited almost constantly, and quantities of coagulated blood much of the time were mixed with the vomited matters. At this period, I believe, the diagnosis of cancer of the stomach was made. After his return home the vomiting grew less, and, after a few weeks, almost entirely ceased. In the first part of September jaundice began to manifest itself, and continued, with greater or less intensity, up to the time of his death, on October 7, 1883. At the post-mortem examination the general appearance of the cadaver was sallow, or of a deep saffron hue, owing to the intensity of the jaundice at that time. There was no emaciation. On the contrary, the cadaver presented a plump and well-rounded appearance. On opening the abdominal cavity, I found a moderate amount of fluid of a light yellowish color. The quantity was from three to four pints.

On opening the thoracic cavity, the heart was found to be larger than normal, and flabby. The lungs were slightly emphysematous in patches; otherwise they were normal. Externally, the veins of the stomach were considerably congested, although the mucous coat was apparently quite normal, except near the pyloric orifice, where it bore evidence of erosion in spots, and thickening in others. The pylorus was more or less constricted by thickening of the tissues around and of the mucous membrane. The small intestines were much injected in patches where they could be seen, but were so glued together by the numerous adhesions that they could not be traced for any length continuously. They formed a heterogeneous mass, and were loaded with fat. The spleen was somewhat enlarged, about one half larger than normal, and of a very dark color. In the kidneys there was chronic interstitial nephritis with slight contraction. The capsule was adherent and the cortex thickened. The pyramids were either replaced by connective tissue or greatly contracted.

The principal lesion, however, was found in the liver. This organ was somewhat enlarged, and very firm and hard in texture. It was symmetrical, i. e., of normal shape. An immense gall-stone, three fourths of an inch or 2 cm. in diameter, was found at the point where the hepatic and cystic ducts unite to form the common bile duct. Three large gall-stones of nearly equal size were found in the gall-bladder itself. The wall of the gall-bladder was thickened throughout, the thickest part being at the distal extremity, and measuring 1 cm. in thickness. A constriction in the circumference of the lining membrane of the gall-bladder projected inward to the distance of 0.5 cm., and was situated to the distal side of the middle of the viscus. That portion of the gall-bladder on the distal side of the constriction was occupied by calculi, etc. The thickened wall of the gall-bladder was almost cartilaginous in consistence. Projecting from the left side of the distal extremity of the gall-bladder was a large nodule of scirrhous carcinoma, extending into the lobus quadratus, and measuring 3 × 5 cm. At the opposite side of the distal extremity of the gall-bladder was a similar nodule, 0.5 cm. in diameter, projecting into the right

lobe. The other parts of the liver in the vicinity of the gall-bladder contained nodules of scirrhous carcinoma, having diameters varying from 2 mm. to 1.5 cm. There were no cancerous nodules in the left lobe of the liver worthy of attention.

Dr. A. H. P. LEUF has very kindly consented, at my request, to prepare microscopic sections from the liver of this patient, some of which are excellent. It is to him, therefore, that we are indebted for a view of the minute structure of the organ in relation to the organic changes which it has undergone. These are very finely exhibited in the sections which Dr. Leuf will now show you.

The specimens were then shown.

DEATH OF THE FETUS IN UTERO.—Dr. LEUF then presented a fetus which had been born dead at full term, and Dr. G. V. CONVEY, being called on by the president, made the following remarks:

In presenting to you the causes of death of the fetus in utero, I labor under the disadvantage of want of practical experience in that branch of the medical science within the scope of which such a discussion comes. The facts that I may present here are simply the result of research, except in a few instances, where, reasoning by analogy, by contrasting those influences that may with those that have produced preparturient death, I theorize. In thus presenting the causes that may produce such death, I will not limit myself to any particular period of intra-uterine life, but shall endeavor to give the death-history of the product of conception in all the stages of its development, excepting the accidents of parturition.

The causes of pre-natal death I have, for the sake of convenience, arranged under several general heads; and I will endeavor, after taking them up *seriatim*, to give as full an exhibition of them as my feading and ability allow.

Fetal death may be caused: 1, by a vitiated condition of the spermatic fluid; 2, by diseases of the ovum; 3, by diseases of the fetus; 4, by diseases of the mother; 5, by compound pregnancy; 6, by traumatism; 7, by chemical intoxication; 8, by abnormalities of construction, monstrosities; and 9, by a vicious habit on the part of the mother.

Under the class of a vitiated condition of the spermatic fluid it has been maintained that if such spermatic fluid has the power of producing conception, its work has been done, and thenceforward the ovum is dependent wholly upon the mother for its future sustenance and development, and that the simple fact of impregnation does away with the theory of paternal weakness. On the other hand, quoting from Cazeaux, "a vitiated spermatic fluid communicates to the new being a principle that does not fail, sooner or later, to destroy it"; and Guillemot holds it to be incontrovertibly proved that strong, healthy females, who have married men, though of a suitable age, showing signs of decrepitude and early senility, have consecutively given birth to still-born children, while the issue of second marriages of the same women have been numerous and lustrous.

Passing at once to the next heading, we find that the ovum is liable to diseases which greatly compromise it, and, in some cases, may cause its death. One of these diseases is dropsy of the amnion. The normal amount of amniotic fluid is variable; but, when it exceeds three or four pints, it may be attributed to some morbid condition. This condition has been ascribed by some to a sanguineous plethora, but Dr. Mercier was of the belief that it is due to an inflammation of the amniotic membrane, and professed to have seen, in several cases, the amnion covered with false membrane. Whatever may be the morbid agent in the production of this disease, it has been noticed by many observers to occur in the subsequent pregnancies of the same woman, and to be much more frequent in twin than in single pregnancies. The immense amount of fluid in these cases

(sometimes forty or fifty pints) arrests the development of the child, and it dies in its mother's womb—though occasionally it is born alive, soon to die. If death occur at an early stage of its development, it may become dissolved in the fluid, and no trace of it afterward be found; and, in later stages, the fetus may be affected with either ascites or hydrocephalus, as we learn from the investigations of Bunsen and Kiel.

Rokitansky states that, in certain cases, adhesions more or less extensive form between the amnion and the embryo, and that these, probably the result of inflammation, may so arrest the development of the child as to cause its death.

Besides this dropsical condition of the amnion referred to, cases are met with in which the villi of the chorion become distended with fluid, giving groups of them the appearance of gooseberries. If this dropsical condition becomes general—when all, or nearly all, the chorionic villi are thus affected, the embryo dies; and in this case also may be dissolved and lost. The villi of the placenta may undergo a like degeneration, and here, after causing the death of the child, it fills the amniotic cavity, forming the blighted ovum—vesicular or hydatidiform mole—the *accephalocystis racemosa* of Laennec. Aside from this affection of the placenta, this organ may present functional derangements and textural lesions that imperil or cause dissolution of the product of conception. Plethora, congestion, and diminution in the rapidity of the circulation through the placenta may, if prolonged, so impede aeration of the fetal blood as to result disastrously.

Among the textural diseases, inflammation is the most frequent; it generally affects small areas of the placenta, but does sometimes appear extensively. This inflammation generally gives rise to plastic fibrinous infiltrations, which, reddened from the coloring matter of the blood, give rise to the large, heavy, hepatized placenta, and from the plastic deposits the placenta is nodulated. In the course of time these nodules become pale or yellow; at the same time they become dense, and the placenta, with its remaining tissue, contracts and shrivels. The inflammation in this case terminates in induration and obliteration of the placental tissue, which is converted into a tough, leathery callus, resembling yellow elastic tissue.

In rarer cases the inflammation gives rise to a purulent product, causing a diffused infiltration, circumscribed globular abscesses forming in the tissue of the placenta and general suppurative supervening—phthisis placenta. Either of these conditions will cause the death of the fetus by cutting off its blood-supply. Instances of ossification of the placenta have been mentioned by some writers, but I have been unable to glean any data of importance concerning them. Tuberculous, encephaloid, scirrhous, and fatty degenerations of the placenta have been mentioned by as many authors; but these cases were, according to Cazeaux and Rokitansky, erroneously described as such, having been obliterations of the placental tissue after inflammation, indurated inflammatory products, or old, decolorized extravasations of blood. Placental apoplexy, though generally the result of traumatism, occasionally occurs idiopathically, and, if of frequent occurrence, may result in death of the ovum. Heretofore I have used the terms fetus and embryo interchangeably; but, from the period of quickening, the product of conception is known only as the fetus, and, as such, it and its diseases we will now consider.

A most important morbid process, and one of rather frequent occurrence, the etiology of which is obscure, is inflammation. Inflammation attacks almost all the organs of the fetus, including the thymus gland and supra-renal capsules. It gives rise to plastic products with adhesions between contiguous organs, and in some cases ends in suppuration. The serous membranes are more frequently inflamed than any other tissue, and the peri-

toneum the most frequently of all. The inflammation of the peritoneum may originate in unknown causes or in causes that are demonstrable, such as constriction of the intestines, hemorrhage from the liver into the peritoneal cavity, and extravasation of the contents of the intestines or bladder.

Inflammation of the brain and resulting softening, and, in some cases, complete liquefaction of the cerebral substance, are found. Endocarditis affecting the right side of the heart, and pericarditis also, occur in fetal life, and death may ensue in the one case as a sequel to embolism, and, in the other, from interference with the heart's action. Hyperæmia and inflammation of the alimentary tract have been found, and may be accompanied by ecchymoses in the tissues and extravasations into the intestinal cavities. In the intestines, Peyer's patches are found in some cases of a "fleshy, sarcomatous" appearance, containing a grayish, curdled, flocculent fluid. These conditions resemble greatly the induration and breaking down of the Peyerian glands in typhoid fever, and may result, says Rokitsansky, if not from an identical cause, from a very similar one. Autopsies on fetuses have also shown a diffused croupous inflammation of the intestinal mucous membrane.

In the respiratory apparatus we may find disease; hepatization and even abscesses have been seen in the lungs.

The liver of the fetus is often the seat of congestion and hyperæmia, and, from the delicacy of the tissue, apoplexy and rupture occasionally occur. Infiltration into the hepatic tissue may form, giving the fatty, waxy, and lardaceous livers.

The urinary organs of the fetus do not often become diseased, but in a few cases apoplexy of the kidney is found, and supuration of the supra-renal capsule occurs; and, from contraction or an impervious condition of the urinary passages, the bladder has been found ruptured.

The fetus is not only affected with these local diseases, but may suffer from the various zymoses, and may even die; and this either while the mother is coincidentally affected, or independently of her. The fetus may become affected with variola, even though the mother never had the disease; this fact is attested by Bouchut, Rokitsansky, Jenner, Deneux, and others.

If malarial toxæmia is ever the cause of death, I think it might be noted as a possible cause of pre-natal death, especially in those localities where the malarial miasm is of a virulent character; for it has been proved by several observers (Stokes, Schurig, Jacquemier) that women affected with malarial toxæmia may communicate the disease to the fetus. Finally, there is one disease which I put in this category, first, because the fetus becomes affected with it, and, secondly, because it enables me to dodge the question as to whether it is communicated by the father or the mother; and that disease is syphilis. Of all the diseases to which humanity is heir, none compares in destructive ability with syphilis. Various is its mode of action, in fact, many if not all of the lesions of the fetal organs may be due to the action of this poison; inflammation, abscess, and supuration of the different organs have been ascribed to it by many authors, and monsters of arrested or perverted growth by others.

Without spending any more time on diseases of the fetus, we pass at once to diseases of the mother. The diseases of the mother that sometimes produce death of the fetus in utero are few; and some of them have already been noticed when speaking of diseases of the fetus. Variola, as we have seen, scarlatina, and measles may be communicated to the fetus and result in its death. Typhoid fever and pneumonia have been observed to cause the death and expulsion of the contents of the uterus; and Asiatic cholera has produced like results, but probably from the spasms more than any transmission of the disease. Uremia, with marked convulsions, may result in like manner, and severe

cases of albuminuria have, in the opinion of Cazeaux, Cohen, and Rayer, caused the death of the fetus.

Taking up compound pregnancy as a cause of preparturient death, we find that one of the fetuses may die, yet the other continue to grow. In these cases the dead fetus remains in the uterus, where it withers and hardens, and is expelled during labor. In other cases the dead twin may remain in the womb, in consequence of adhesion, for a long time after the birth of its brother; and one case is recorded by Guillemot in which the artificial extraction did not take place until two years afterward. The cause of death of one fetus was attributed by Mauriceau and Peü to the fact that one child, by receiving all the nourishment, becomes strong and vigorous at the expense of the other, thereby rendering it feeble and causing its death. Guillemot believed that one child, in its growth, gradually compressed the second against the uterine wall, and that the latter, not having sufficient space for its development, soon after died. Other authors are of the opinion that, in the cases where death of one fetus takes place, the cause should be attributed to some disease of the ovum, fetus, or placenta. What is said of twin pregnancies applies with equal force to cases of triplets, etc. Thus, in the case cited by Portal, after the delivery of the first child and its placenta, which were healthy, he was obliged to extract two others that had apparently been dead a long time, and were thoroughly dried.

Traumatism may cause the death of the fetus, either by direct injury to the fetus itself or to the placenta or umbilical cord. Some females will go through almost any kind of accident and yet give birth to a living child; yet, in other cases, very slight injuries will cause fetal death. Cazeaux gives us the case of a woman, six months pregnant, who struck her abdomen against a table while walking through a dark room; during the night the motions of the child were for a time quite tumultuous, then they diminished, and on the following day were not perceptible at all. Two days afterward she was delivered of a dead child, which presented an ecchymosis on its back as large as the palm of an adult hand. Burdach speaks of a woman who received a blow upon the lower part of the abdomen when in the sixth month, and was delivered of a child the bones of whose right leg and of a forearm were fractured. Blows, concussions, and shocks to the abdomen may also cause apoplexy and separation of the placenta; also rupture of some of the umbilical vessels. Under the heading of traumatism should come also cases of extreme shortness, true knots, and preternatural length of the umbilical cord, as these conditions may result in the preparturient death of the fetus by, in the first case, rupture from traction, and in the others from compression of the vessels, thus interfering with the fetal circulation. I make no mention here of traumatism as applied with criminal intent; in like manner I refrain from mentioning chemical substances used for the same purpose, referring the curious to the lists of Tidy, or any other work on forensic medicine.

Chemical Intoxication.—In 1859 Dr. Constantin Paul made a study of the effects of lead upon pregnancy. He observed the case of a woman who had been three times safely delivered before being exposed to the influence of lead, and who afterward, out of ten pregnancies, had eight miscarriages, one still-born child, and but one that was born at term, but which died five months afterward. Dr. Paul thought that this great mortality might be due to the action of lead. The woman also informed him that almost all her companions in the establishment in which she worked either miscarried or were unable to raise their children. He then began his investigations. He found from these investigations eighty-one cases of women in whom lead-poisoning caused either the death of the fetus or

the premature death of the child after birth; also miscarriages at from three to six months, and premature labors in which the children were born either dead or in a dying condition. Without going in detail through the different series of Dr. Paul, we find that the fetus in utero may either become affected with lead-poisoning while the mother is so suffering, or the fetus may become affected and die while the mother shows no evidence of such intoxication; and, from the fact that out of 123 pregnancies there were 64 abortions, 4 premature births, and 5 still-born children, and presuming that many of the 64 abortions were connected with intra-uterine death, we readily see the disastrous effect of this chemical agent. While I have been unable to gather any material relating to arsenic in this connection, I think it reasonable to suppose that it may have a like action. When we consider the large amounts of lead and arsenic that are used by ladies in depilatories, cosmetics, and lotions, as shown by the analysis of Professor Chandler, and recollecting the case of "Bloom-of-Youth" poisoning mentioned by Dr. Sayre, a macroscopic examination of the mother's studio would, in some cases, I think, give greater results than microscopical and pathological investigations.

There are certain meteoric influences that may have some action on the life of the fetus, and can be better noticed at this time than at any other. On the Vosges Mountains, where cretinism and goitre are prevalent, miscarriages are so frequent that females living on these mountains are in the habit of descending to the adjacent plains to be enabled to go on to term. May not these abortions in many cases be the result of previous death of the fetus, for does not the prevalence of cretinism show that the development of the fetus is interfered with?

Regarding abnormalities of construction or monstrosities there is but little to say. In certain cases, consisting in a diminution of the normal number of organic parts, the fetus may reach a certain stage of development, and then die. Of one class are the *anencephali*, which, though occasionally born alive, generally die before term. Of another class is the *acardiac monster*, which is never born alive—and sometimes the two forms are found in one fetus. Many more classes might be mentioned, but it is needless. These monstrosities are the result of arrested development, due to inflammation or some specific morbid agency—probably syphilis. The last division of the cause of death of the fetus in utero that I have made is certainly not a scientific one; but it serves to cover that class of cases in which certain females give birth consecutively to still-born children without any appreciable cause being found either in the father, mother, or child itself. These females generally give birth to the dead child at particular months of their pregnancy—seldom before or after; Cazeaux records the case of one who gave birth to a still-born child thirteen times in succession during the last month of utero-gestation, and nothing could be found to account for it except idiosyncrasy or a vicious habit.

These, Mr. President and gentlemen, are some of the causes of preparturient death of the fetus, some of which may be recognized by the acute observer; and, on the removal of such—if removable—the mother will be enabled to give birth to the normal fruit of her conception instead of some hideous, dwarfed, or unrecognizable product of a vitiated uterine life.

Dr. JEWETT closed the discussion, after which the society adjourned.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held November 20, 1883, Dr. W. M. POLK, President, in the chair.

SARCOMA OF THE CERVIX UTERI.—Dr. JAMES B. HUNTER presented a specimen which he had removed at the Skin and Can-

cer Hospital from a patient sent to him by Dr. Arango and Dr. Townshend. She was thirty-seven years of age, and the mother of one child. On examination by the vagina, a mass could be felt, bleeding easily, apparently malignant in character, and connected with the cervix uteri. It gave rise to considerable hæmorrhage, but not to pain. On the 24th of October the patient was placed under ether, and the growth was removed with the spoon-saw and scissors. It was found to be attached to the posterior lip only, but the attachment extended from the external to the internal os. Microscopical examination proved the growth to be a spindle-celled sarcoma. The patient made a good, but somewhat slow recovery. Dr. Hunter had found it rare for sarcoma to develop in the cervix uteri.

Dr. HENRY J. GARRIGUES said that, while sarcomatous growths from the cervix were indeed comparatively rare, they seemed not to be so rare as had been supposed. This was the third case which had come to his knowledge within less than a year. The first case occurred in the practice of Dr. Burke, of South Norwalk, Conn., and the specimen was referred to Dr. Garrigues for examination, and was reported on at the meeting of December 20, 1882. The second case was that of an old woman, from whom Dr. Garrigues removed the sarcomatous growth by means of Simon's spoon and Paquelin's cautery. The patient died of peritonitis. In those two cases the affection was the small-round-celled sarcoma. Dr. Hunter had just related the third case.

Dr. JOHN G. PERRY asked Dr. Hunter whether the growth had not originated in the cavity of the uterus and afterward become attached to the cervix.

Dr. HUNTER replied that it had evidently developed from the cervix in the first instance.

Dr. JOHN BYRNE said that some years ago he removed what was regarded as a vascular tumor from the posterior lip of the uterus, and found that there still remained a projection from the posterior cervical wall, interfering somewhat with the passage of the sound. Microscopical examination showed that the growth removed was sarcomatous in character, and he then regretted not having removed the entire tumor. The patient had only suffered pain at the monthly periods. Two months ago she returned with the same symptom, and, on examination, the growth in the cervix was found to have remained stationary. Was it possible for sarcoma to remain quiescent for so many years?

Dr. GARRIGUES thought it was possible that a mistake had been made as to the true character of the growth, based on the microscopical examination. As the President had suggested, the fungous growths of a chronic endometritis often presented the characteristics of diffuse sarcoma, and the two could be distinguished only by their clinical history.

Dr. B. F. DAWSON reported further on the case of papillomatous cyst related at the last meeting. The patient did very well until the sixth day, when absorbent cotton carried into the drainage-tube showed slight signs of the presence of pus. Dr. Wilcox, the house surgeon, sent him word in the evening that the patient complained of pressure about the heart, and of numbness of the left leg and arm, that the tongue did not deviate to the left, but that there was some difficulty of speech, and that the pupils were normal.

Dr. Dawson immediately visited the patient, and found the temperature was 100.4° F. The tube, on being examined, was found to contain pus, which Dr. Dawson believed was probably due to part of the discharges from the wound under the seat of the clamp entering the peritoneal cavity alongside the drainage-tube. He decided, therefore, to remove the clamp, and adapted a hard-rubber Hodge pessary, flattened out, to take its place in holding the stump in the abdominal wound by silver wire twisted around the pedicle, the ends being fastened to the side

of the pessary resting over the wound. The temperature began to fall in a few hours, and the patient soon felt better. Similar symptoms again developed about the tenth day, but disappeared on emptying a mural abscess. The drainage-tube was allowed to remain until the ninth day, when he was sure that an impervious wall of lymph had formed around it, and then its place was immediately supplied for a few hours by a roll of absorbent cotton, renewed twice. Three days ago a slight discharge had taken place from the vagina, but he did not think it due to the clamp, as this had been applied so low down on the fundus as to involve the cavity. He considered the patient out of danger. Dr. Dawson thought that doubtless death had resulted in more than one case, from the presence of the clamp, which might have been avoided by early substituting the pessary and wire or other support for the pedicles.

TWO CASES OF VICARIOUS MENSTRUATION.—Dr. GARRIGUES related the following cases: One was that of a woman, forty years of age, who had ceased to menstruate a year and a half before, since which time she had constantly had what she called "milk in the breasts." It consisted of a thick, yellowish-white fluid, which, on microscopical examination, was found to be colostrum. He prescribed Carlsbad salt internally, and belladonna locally. He had seen the patient but twice. The second case was that of a woman, forty-seven years of age, in whom the menopause had taken place fifteen months before. In her case there was constant and profuse perspiration over the entire body. Tincture of belladonna was prescribed internally. She had not been seen since.

Dr. A. JACOBI had seen two cases of a discharge of milky fluid from the breasts after the menopause. In one it occurred in a woman about seventy years of age, who made no complaint, and therefore was not subjected to treatment. The other case was observed many years ago, and was taken for vicarious menstruation. The patient improved within six or eight weeks under the influence of cold locally and ergot internally. In that case there were very large fatty granules in the secretion, as was also true of colostrum.

Dr. PERRY had seen three cases of excessive perspiration following the change of life—all of them in unmarried women. He had considered it due to a neurosis, and treated it by rest and regulated nutrition. Two of the patients quickly recovered. In the other case the trouble lingered for two or three years, and was not relieved until after a sea voyage.

The PRESIDENT said that about three years ago a patient came under his care who had not menstruated for six months. The abdomen was enlarged, the breasts contained milk, and she supposed she was pregnant. The uterus was found to contain a fibroid tumor, but no fetus.

Dr. GARRIGUES referred to the sympathetic relation between the mammae and the genitals, which was illustrated in the case of a virgin, both of whose breasts secreted milk for three or four days following an intra-uterine injection of a dilute solution of chloride of iron, given to arrest hemorrhage from a fibroid.

Dr. CLEMENT CLEVELAND had seen a woman, fifty-three years of age, who, since ceasing to menstruate, at the forty-fifth year, had had a monthly bloody discharge from the nipple. She had been under his observation for about two years, and he had considered the case to be one of vicarious menstruation.

LOCAL EDEMA, CONFINED ABOUT THE EYE, DURING MENSTRUATION.—Dr. RACHE McE. EMMET related the case of an unmarried lady, aged thirty-two, who, at each menstrual period, had a localized oedematous condition of the face, confined about the left eye and the lids, together with ptosis. The sight was not affected except by the swelling of the lid. He regarded the condition as due to a neurosis, and it had temporarily improved

with restoration of the general health. There also existed an obstinate eczema about the genitals.

Dr. JACOBI thought the case related by Dr. Emmet specially interesting in the absence of pain.

PERSISTENT FLACIDITY OF THE UTERUS AFTER DELIVERY.—Dr. PERRY related the case of a lady, thirty-eight years of age, the mother of five children, the youngest being four years old. She had complained, since the birth of this youngest child, of bearing-down pain and inability to stand or walk, from the great pressure and weight in the pelvis. Menstruation occurred every three weeks, and lasted, with scanty flow, seven and eight days. On making a vaginal examination, he found the cervix in its proper position, but very short and flaccid, and, extending around it in a circular direction, a soft mass, apparently the result of a pelvic inflammation. On conjoined manipulation, the mass appeared very shallow, but nowhere could he find the fundus of the uterus. A sound was introduced, which penetrated but two inches. Not doubting that it was within the uterine canal, he essayed a little force, and with this was able to penetrate to the depth of eight inches, and, while doing so, found that the mass in the pelvis disappeared. He had, indeed, while forcing the sound upward, carried the uterine wall before it. An electrode was substituted for the sound, and a current of galvanism conveyed to the endometrium. This was done from day to day, without, at first, eliciting more than a slight flow of blood; but in time contractions followed, and finally sufficient firmness was established to justify the use of a vaginal support. At this juncture ergot and galvanism were used together, and a complete cure was eventually established. The patient had since become pregnant, and promised to do well. Dr. Perry thought this a case of subinvolution resulting from sudden and complete cessation of contraction after labor, leaving the uterus in a state of collapse; but he thought some might regard it as essentially a case of paralysis.

Dr. JACOBI thought that the treatment by electricity should vary according to the view taken of the cause of the condition. In cases of paralysis of certain muscles, or groups of muscles, relief was sometimes obtained by applying electricity to the nerve centers. The quick result following the application of galvanism to the uterus in this case would rather point to subinvolution being the cause of the paralytic condition. So soon as absorption of the abnormal, hyperplastic material had been accomplished by the action of the galvanic current, the uterus resumed nearly its normal shape.

Dr. ROBERT WATTS said that two similar cases had been related to the society, one of which occurred in a patient at Charity Hospital some years ago. On making an examination, he passed the sound a distance of nine inches up the uterine cavity, and it could be felt through the abdominal wall. It was believed that the sound had passed through the uterine wall, and an attack of peritonitis was awaited. The patient had no bad symptom, however, and the procedure was repeated several times afterward by different physicians. Dr. Isaac E. Taylor called the case one of "balloon uterus." The other case was similar, the sound passing a distance of eight inches and a half.

The PRESIDENT referred to his experience in hospital practice with Hegar's method, a modification of Simon's, for the examination of the pelvic organs, which he considered much superior to the ordinary method by conjoined manipulation. In his experience it had not been attended by any bad results. In many cases, he believed, the true condition could be determined with more certainty by this method.

HENRY J. GARRIGUES, M. D.,

BENJAMIN F. DAWSON, M. D.,

FRANK P. FOSTER, M. D., *ex officio*,

Committee on Publication.

Reports on the Progress of Medicine.

PSYCHOLOGICAL MEDICINE.

By J. LEONARD CORNING, M.D.

BILATERAL HALLUCINATIONS DIFFERING IN CHARACTER ACCORDING TO THE SIDE AFFECTED.—Magnan ("Archives de neurologie," Nov., 1883) draws attention to the fact that, as a rule, hallucinations affect the two symmetrical halves of the same sensory apparatus; that is to say, that the victims of hallucinations, like those of normal constitution, hear with two ears, see with two eyes, perceive, in a word, with both sides the subjective images which they ascribe to the environment. Under certain circumstances, as already noted by several observers, the hallucination is unilateral and affects one of the symmetrical halves. Where this condition exists the individual is dominated by one eye, one ear, or one side of the body.

In a still rarer category of cases the hallucination is bilateral, but manifests itself with variable characteristics, according to the side affected. Thus, the right ear, for example, hears things of an agreeable nature, whereas the left ear receives nothing but dismal impressions. The latter is a phenomenon which, up to the present time, has by no means received the attention which it deserves.

Several cases are cited by Magnan illustrative of this curious condition. In one of these instances of bilateral hallucinations, occurring in an old soldier, the disagreeable impressions were confined to the left side, whereas those of a pleasant character were manifest upon the right. The subject had been addicted to alcoholic excesses, and had consequently suffered on several occasions from delirium tremens, accompanied by various horrible hallucinations of sight and hearing. He had been treated twice at the Asile Sainte-Anne. The last time he was treated at that institution he complained of hearing voices, one of which abused while the other consoled him. The insulting voice spoke into his left ear, in an abusive manner, calling him an imbecile and criticising his work; the protecting voice, on the other hand, interfered at the right ear, consoling and encouraging him. Such phenomena are considered by the author to constitute additional proof of the duality and functional independence of the cerebral hemispheres.

In summarizing the results of his observations he concludes: 1. That bilateral hallucinations possessing different characteristics, according to the affected side, are independent of any organic change in the peripheral organs. 2. That they do not differ from other hallucinations either in their mode of appearance, in the manner of their evolution, or in their general characteristics. They pursue a parallel course to the delirium. 3. They are an additional proof of the duality and functional independence of the cerebral hemispheres, and they point to the sensory centers of the cortex as the organic seat. 4. The experiments performed during the different stages of hypnotism and hysteria confirm clinical observation in every point.

SUDDEN DEATH DURING THE HYSTERICAL CRISIS.—Molliére ("Lyon médical," Nov., 1883) presents a critical review of a number of cases of hysteria reported by Regnier de Graaf, Morgagni, Rullier, Piorry, and others, in which death transpired during the crisis. From an analysis of these cases, as well as from careful study of a case occurring in his own service, at the Hôpital de la Croix-Rousse, in which a careful post-mortem examination of the brain and medulla was made, twenty-four hours after death, the author feels justified in arriving at the following conclusions: 1. If hysteria depends for its existence upon some specific organic lesion, the latter is entirely unknown to us at present. 2. Until a new order of things, therefore, the great

neurosis must remain in the category of the *maladies sine materia*, or rather of those in which the dynamic state of the anatomical elements is alone called in question. 3. Moreover, in almost all the cases analyzed, the fatal termination was intimately connected with the phenomena of asphyxia, occurring with more or less rapidity, but always perfectly recognizable.

PROGNOSIS IN CASES OF MENTAL DISEASE.—Sankey ("Liverpool Medico-Chirurgical Journal," January, 1884) has tabulated the more important conditions which characterize the early stages of the incurable and curable forms of mental disease. The inquiry resolves itself into a determination as to (1) whether the case is one of general paralysis (incurable form), or (2) whether it represents an instance of ordinary insanity. By "ordinary" insanity is understood all curable forms of mental disease (except general paralysis).

The positive evidence bearing upon the question as to whether a given case of mental disease belongs in the category of curability or incurability, as above understood, may be broadly summarized as follows (when the attack is primary):

1. The mode of the invasion in ordinary insanity, in a primary attack, will be by melancholy. General paralysis, as a rule, commences by the opposite rather, as by hilarity, busy occupation, absurd conduct, garrulity, and want of ordinary reticence on every subject.

2. In ordinary insanity the emotions alone are affected, as by depression and grief, sense of wickedness or being blameworthy, morbid apprehension, as of ruin, injury, poison, loss of salvation, etc.

In general paralysis all the faculties are in a state of exaltation, the emotions, the intellect, and volitions being equally involved, and the conduct is wild and irrational.

3. In the melancholy of ordinary insanity the patient wishes for solitude. In general paralysis the patient rushes into all kinds of society.

4. In ordinary insanity the commencement of the symptoms is gradual, insidious, often obscure, and occurring in persons of quiet temperament. In general paralysis it follows very often upon some great mental shock, and almost suddenly, and occurs in persons of sanguine temperament and great activity of mind. The evidence contained in the history of the case should be examined both from a negative and positive standpoint.

As general paralysis is almost invariably fatal, it is evident that there can be no true second attack. It should, however, be borne in mind that the disease is liable, under certain circumstances, to remission of all symptoms. Such a remission may last for several years, giving rise to the erroneous belief that the disease, after all, is not a case of general paralysis.

Where we have to do with a secondary attack of mental disease, which has taken place after a period of apparently complete recovery, the probability of restoration is greater than in primary cases. At the same time, however, all things being equal, the prospect of a third and subsequent attack is greatly enhanced. This is particularly true where there is a persistence of the exciting cause, as in the puerperal condition. When the secondary attacks become progressively less severe the prospect of ultimate complete recovery is proportionately increased.

TWO CASES OF INSANITY IMPROVED BY AN ANTHRAX.—Fusier ("L'Encéphale," Jan., Feb., 1884) gives the history of a case of mania and also of one of melancholia in which the advent and subsequent opening of an anthrax in the dorsal region were followed by immediate and permanent amelioration of all the symptoms. A very noteworthy feature in these cases was the deep and prolonged sleep which supervened after the opening of the abscesses, from which the patients awoke with marked evidence of mental improvement.

[One can not read these cases attentively without feeling

convinced that the marked mental benefit is attributable to the *prolonged sleep*, during which a reform was inaugurated in cerebral nutrition, culminating in a permanent restoration of the normal dynamics of the cell. In the first case cited, this period of profound sleep lasted eleven hours.—J. L. C.]

THE REFUSAL OF FOOD BY THE INSANE, WITH REMARKS ON TREATMENT.—SIEMENS ("Archiv für Psychiatric und Nervenkrankheiten," XIV. Band, 3. Heft, 1893), in an elaborate paper, has endeavored to show how far it is possible to treat the refusal of food by insane patients, upon a scientific basis, without the use of restraint. The dangers which may result from the use of the stomach-pump and sound are made the subject of elaborate discussion; and numerous instances are cited where the sound has entered the trachea instead of the oesophagus, giving rise to direct injuries of a severe nature, or resulting in pneumonias caused by the entrance of particles of food into the bronchi, or, in some cases, in immediate asphyxia. A case is cited where even a surgeon of great experience was so unfortunate as to thrust the sound of an ordinary stomach-pump through the aorta, owing to a movement on the part of the patient.

[The subsequent remarks upon scientific alimentation, while eminently credible, will appear somewhat utopian to those who have had some practical experience with this class of cases in asylum practice. Moreover, the dangers incident to the introduction of sounds into the oesophagus seem to us somewhat exaggerated. We have had occasion to undertake this procedure several hundred times in asylum practice without even the approach to an accident. The time has certainly not yet arrived when the sound can be banished from the wards of lunatic hospitals.—J. L. C.]

THE PULMONARY PATHOLOGY OF GENERAL PARALYSIS.—CRICHTON BROWNE ("Brain," Oct., 1883) draws attention to the fact that, although the pathological processes found in general paralysis of the insane which possess most importance are such as are located in the central nervous system, there is, nevertheless, a category of secondary morphological phenomena which, though much neglected, are deserving of careful study.

Thus, among the secondary degenerations of general paralysis, those that affect the lungs are not the least conspicuous and important. In a large percentage of autopsies performed upon individuals who have succumbed from the effects of this disease, coarse changes in the pulmonary structure are plainly visible, and in many cases these are of a nature which indicates that they have interrupted the progress of the cerebral disorder, and prematurely brought to a close the unhappy existence of the sufferer.

Dr. Crichton Browne has tabulated his observations upon the pulmonary condition of one hundred patients—eighty males and twenty females—who died in the West Riding Asylum between April, 1872, and August, 1875. The average age of these patients at the time of death was forty-one years and seven months in the men, and forty-two years and five months in the women; and the average duration of asylum treatment was sixteen months and two weeks for the men, and twenty-four months and one week for the women. The earliest age at which death from general paralysis occurred was twenty-four years in a man, and thirty-two years in a woman; and the greatest age at which it occurred was fifty-five years in a man and fifty-seven years in a woman. The average age for the incursion of the disease is about the same for both sexes—viz., forty years; but the advance of the malady is more rapid and violent in men than it is in women.

It is to be noted that where intercurrent maladies appeared in the course of these cases they did not set in till the fourth or last stage of the disease. The first point to which the author

directed his attention, in connection with the inquiry concerning the pulmonary pathology of the disease, was the weight of the lungs. The mean weight in the male was found to be 26½ ounces for the right and 24 ounces for the left lung. In the female the mean weight of the right lung was found to be 18½ ounces, and that of the left 15½ ounces. As the author remarks, these figures are so greatly in excess of all standard lung-weights that it is obvious that they have been raised in the case of general paralysis by morbid conditions of the lungs, the influence of which is also apparent in the enormous difference between the highest and lowest weights, as shown in the table [males: highest, 46.75; lowest, 13.00. Females: highest, 31.00; lowest, 7.50].

Table III exhibits the state of the pleuræ in one hundred cases. In thirty-six cases the pleuræ on both sides were found, free from adhesions and normal, whereas in sixty-two instances adhesions were present. Fluid was present in the pleural cavities in two cases.

Congestion of the lungs—the most common pulmonary accident in general paralysis—was present to a marked degree in forty-nine (49) out of the one hundred (100) cases analyzed. The amount of congestion varied from slight hyperæmia, with some serous infiltration of the pulmonary parenchyma, up to extensive engorgement of a dark-red, or even blackish color.

A distinct pneumonic condition of the lungs was found in thirteen (13) out of the one hundred (100) cases of general paralysis. Dr. Crichton Browne concludes, with regard to the causation of these pulmonary inflammations in general paresis, that, "as in the acute and chronic decubitus of general paralysis, we are forced to assume that, besides mechanical irritation, some centric nervous influence is at work, causing neuro-paralytic hyperæmia, and, perhaps, a suspension of healthy trophic influences, for the existence of trophic fibers in the lungs is not yet finally disproved."

The author aptly observes, when discussing these phthisical symptoms, that, until Koch's theory is disproved, it would be prudent to act on the assumption that it is true, and to prevent the close association of persons actually suffering from phthisis with those who, from inherent tendency or deterioration of health, are especially liable to contract the disease.

Abscess of the lung was observed in two cases out of the one hundred examined.

Gangrene of the lung, however, did not occur in any of the one hundred cases analyzed.

HYSTERIA: A STUDY IN PSYCHOLOGY.—LLOYD ("Journ. of Nervous and Mental Disease," Oct., 1883) attempts to "unfold" some of the psychological features of hysteria. The ideas of the ancients respecting the nature of hysteria were fantastic to a degree. Thus, Paul of Ægina believed the cause of the disease was to be ascribed to putrid semen in the womb. Hippocrates, on the other hand, affirmed that it was most frequently encountered among elderly virgins and young widows. Plato says that it is the expression of indignation on the part of the womb, which, being unable to generate, wanders about the body, and stops the passage of the spirits and respiration. The idea of uterine or ovarian agency in the production of hysterical symptoms is, however, by no means confined to the ancients, but, on the contrary, finds support among observers of reputation in the modern medical world. Charcot, indeed, asserts that he can arrest a severe fit by pressure on the ovary. Rosenthal believes the primary causes of the disease are resident in the cord. Conolly maintains that the disease arises from a morbid susceptibility of the nervous system. The difficulty with these conceptions of more recent writers concerning the causative factors of the disease is found in their evident crudity and their inadequacy to account for the psychical phenomena.

A very interesting instance is given of "hysterical" symp-

toms occurring in a young Irishman. From the evidence contained in this case the author draws the following inferences: That hysterical symptoms are not always due to the womb or ovaries; secondly, that sometimes they can not be linked to any bodily organ; and, lastly, that they are in most cases, if not *all*, due to abnormal states of consciousness. Healthful consciousness has "many modes of action." Thus we have *sensational* consciousness, or knowledge of impressions from the outside world. Following upon sensation there are two other psychical states, which alternate with one another—the *intellectual* and *emotional* modes of consciousness. Besides these we have the consciousness of memory and volition.

Consciousness is defined as a condition of self-knowledge in relation to the exterior world. [Not a bad definition. Consciousness is, however, best understood by a careful analysis of its evolution. Such an analysis, from a more or less physiological point of view, is given by Luys. Definitions are apt to be either long and unwieldy, or, when brief, to be crude and inadequate.—J. L. C.]

From a physiological point of view, the author thinks, there would be no objection to accept, for these various psychological districts, the term *center*. It is a lack of due co-ordination between the various centers which gives to hysterical affections their most pregnant characteristics. Moreover, the nervous system may be regarded as a mechanical arrangement for the expression of certain reflex actions. It is in this very mechanical or reflex action of the lower ganglia in the cord, and the ganglia of special sensation and also the highest centers of the brain, that many of the characteristics of hysteria are to be sought. In a word, the sphere of this disease is more especially limited to the automatic action of the brain and cord.

Both the causation and symptomatology of hysteria receive considerable attention. The article is carefully written.

THE CONDITION OF MUSCULAR FORCE IN GENERAL PARETICS.—Descourties ("L'Encéphale," Jan., Feb., 1884) has measured, by means of the dynamometer of Mathieu, the strength of a large number of individuals suffering from general paralysis, at various stages of the disease. Due allowance being made for the sources of error inherent in the dynamometer, which the author is at some pains to point out, the following are some of the conclusions arrived at: 1. The strength of general paretics is usually diminished from the inception of the malady. The pressure, estimated by means of the dynamometer, amounts to an average of 34.7 for the right and 30.2 for the left, instead of 54.3 for the right and 47.1 for the left, which represent the normal average. 2. This loss of strength is about equally distributed upon the right and left sides. 3. It does not follow a continuous course. The author believes that the knowledge gained by means of the dynamometer will often enable the physician to adopt prophylactic measures impossible under other circumstances.

DEFINITIONS OF INSANITY.—Huggard ("Jour. of Mental Science," Jan., 1884), after criticising the inherent defects of previous attempts at definition, speaks of insanity as "any mental defect that renders a person unable to conform to the requirements of society." It is impossible to epitomize the arguments adduced by the author in favor of his individual views on this delicate and much-contested point. The article is suggestive, however, and will repay a perusal.

THE PATHOLOGY OF MANIA.—Wigglesworth (*ibid.*) defines mania as a disease involving disorder of the relational elements of mind, and of a greater or less number of these, according to the intensity of the disease; in other words, what we clinically know as mania has for its material substratum an affection, functional or organic, of the higher co-ordinating plexuses of the brain.

HEREPHRENIA, OR INSANITY OF PUBERTY.—Ball ("L'Encéphale," Jan., Feb., 1884) expresses his opinion respecting the reason for the occurrence of insanity at the age of puberty as follows: The reflex phenomena, which play so prominent a part in grown men, attain the maximum of their development in the child, as Maudsley has pertinently remarked. The majority of intellectual and moral operations performed during the first years of life are sensory and motor reflexes. Automatism plays an immense part during this period of development; and it is only by degrees that individual action is developed, which is sustained by judgment, experience, and volition. Puberty is therefore the epoch at which the greatest psychological transitions take place, and at which the mind is particularly susceptible to the inroads of mental disease. The unfavorable prognosis is, moreover, attributable to the mental arrest which is liable to arise from insanity occurring at this period.

Miscellany.

THERAPEUTICAL NOTES.—*Phosphide of Zinc*.—In a recent number of the "Gazette hebdomadaire de médecine et de chirurgie" M. Paul Vigier remarks that, although phosphide of zinc contains twenty-five per cent. of phosphorus, it requires to be given in doses eight times as large as those of phosphorus, for in the system its phosphorus enters into combination with hydrogen, and in that state has only half the activity of phosphorus. Leaving the question of dose out of account, however, much of the disappointment that has been met with in the use of the drug is no doubt to be ascribed to an imperfect salt having been used. In the process of making phosphide of zinc, the salt forms in two different states, one part of it subliming, and the other forming a gray, friable mass. The latter form predominates in the process of manufacture, but is very variable in its percentage of phosphorus. An eighty-per-cent. phosphide answers every purpose, but all below sixty per cent. should be rejected. The following convenient method of assay is given: 0.586 gramme of the phosphide, wrapped in a piece of cigarette-paper, is introduced into a graduated gasometer, inverted over mercury, and containing 8 c. cm. of hydrochloric acid. If the phosphide is pure, it ought to disengage 100 c. cm. of phosphorated hydrogen completely absorbable by a concentrated solution of sulphate of copper, an eighty-per-cent. phosphide will disengage 80 c. cm. of the gas, and so on.

THE COUNTY SOCIETY AND THE COLLEGE OF MIDWIFERY.—The following is the full text of the minority report presented at the last meeting of the Medical Society of the County of New York by Dr. A. W. Warden (not Dr. Ralph Waldo, as erroneously stated in our report of the meeting in last week's journal):

"The undersigned, a part of your committee appointed to investigate and report to the Medical Society of the County of New York concerning two acts proposed for State legislation presented to the Medical Society of the County of New York for approval, by the promoters of the proposed New York Maternity and School of Midwifery, reports as follows:

"*First*, in regard to the proposed New York Maternity and School of Midwifery, your committee do recommend that the Medical Society of the County of New York do not indorse or commend the incorporation of such an institution, because not conducive to the elevation of the medical profession and the good of the community.

"*Secondly*, in regard to the proposed 'Act in Relation to the Practice of Midwifery in the State of New York,' your committee find such proposed law to be not advisable, and counsel that the Medical Society of the County of New York, in the interest of maintaining a high standard of qualification for the practice of midwifery and all branches of the profession of medicine, and in the interests of the people of the State of New York, do not approve any State legislation giving the

right to practice midwifery or any branch of the profession of medicine to persons other than qualified and registered (male and female) physicians.

[Signed]

"A. W. WARDEN, M. D."

THE CONTAGIOUSNESS OF ERYSIPELAS.—The following summary, from a paper by Dr. H. F. A. Goodridge, in the "Practitioner" for December, 1883, concisely exhibits the position he occupies with reference to this question:

1. Many authorities concur with Mr. T. Holmes in regarding erysipelas as only feebly contagious, e. g., Billroth, who says: "It is propagated by a contagium which is considerably less infectious than that of measles or scarlet fever." The difficulty, according to recorded testimony, of producing the disease artificially would seem to tell much in favor of this view.

2. All true erysipelas, according to Trousseau, is traumatic; that is to say, it never develops itself otherwise than in dependence upon a previously existing open wound or solution of continuity, not necessarily a large one; it may be only a slight excoriation, nay, a lesion so small that the person himself may hardly be aware of it. Moreover, in regard to facial erysipelas, such lesion, when not present on the external integument, may frequently be found in the mucous lining of the mouth or nares. It constitutes, in fact, the primary spot of infection, and the starting-point of the inflammatory process. Most subsequent writers have adopted these views of Trousseau's, and they seem generally to be in accord with clinical experience. The failure of the disease to spread, then, in hospital wards, families, etc., might be in great measure due to the absence of this essential condition of receptivity.

3. Immunity from liability to attack, that is, under all circumstances, probably does not obtain to any appreciable degree. As in the case of small-pox, there may be a few very exceptional individuals originally insusceptible of the disease; but, notwithstanding the frequent denial of immunity acquired by a previous attack, evidence is forthcoming to show that protection within certain limits is conferred thereby.

4. As is only a familiar truism, from superficial resemblances, which may be very close, diseased conditions are apt to be confounded together which yet are fundamentally distinct.

In connection with this last point, Dr. Goodridge relates some personal experiences of his own, by which he is led to the conclusion that in cases of facial erysipelas, as they ordinarily present themselves in practice, whatever secondary varieties may exist, there are primarily two distinct forms to be dealt with—viz., the infective and the non-infective forms, or, as the distinction may otherwise be expressed, true, genuine erysipelas and spurious or pseudo-erysipelas. Jonathan Hutchinson clearly recognizes their existence when he says: "Those forms of erysipelas which are due to local irritation are, I think, almost always mild. It is when the disease is due to contagion that it assumes its greatest severity." If, then, in any given number of cases of ordinary facial erysipelas there be a more or less considerable proportion of cases of the non-infective form, a further step is gained toward the better understanding of those otherwise startling facts which at the outset seemed at once to bar the possibility of erysipelas being contagious.

Dr. Goodridge goes on to mention, also coming within the sphere of his observation, that of seventy-five cases of erysipelas of the head and face treated in the medical wards of the Bath Hospital during the twenty years ending December 31, 1882, there were nine (or twelve per cent.) furnished by the nurses and assistant nurses of the institution. "Probably," he adds, "there are few practitioners of experience, particularly if on the medical or surgical staffs of hospitals, who could not produce from their own practice similar evidence." If the literature of the subject be searched, there will be found no lack of instances of the same kind. But the most important evidence of all is that supplied by histological research and experimental pathology—that is to say, the evidence of a *contagium vivum*. This has recently been obtained through the investigations of Fehleisen, of Berlin—undertaken with the object of determining (1) whether in erysipelas a species of bacteria peculiar to it is regularly demonstrable, and, (2) if this be so, whether this micro-organism stands in any etiological relation thereto. For the first purpose, Fehleisen excised a small piece of

skin from the diseased part in each of eleven patients suffering from erysipelas, and in each one of the eleven found the lymphatic vessels of the skin, as well as those of the subcutaneous adipose tissue, and especially those of the most superficial layer of the corium, filled with micrococci arranged in chains. The micrococcus was identical with one already figured by Koch. To demonstrate that this was a specific organism, and that its presence was not merely accidental, Fehleisen next attempted to cultivate it outside the body. After frequent failures, he at length succeeded so far that, in the course of two months, he produced fourteen generations. Fehleisen had found somewhat similar organisms in the pus of wounds, in pyæmia, and in phlegmonous abscesses, but these never behaved in the same manner as regards the pure cultivation in gelatin. The mode of growth, then, of the micrococcus of erysipelas was found to be characteristic. The question remained, Could it, when inoculated into healthy individuals, produce genuine erysipelas? Experiments were first made upon rabbits. Nine were inoculated on the tip of the ear with the pure and cultivated micro-organisms. One of the animals showed an immunity, but in the eight others a typical erysipelas was developed. The disease took from six to eight days to run its course, and ended in recovery.

Lastly, and here culminates the interest of Fehleisen's work, he performed inoculations of the pure and cultivated micrococci on the human subject. After a period of incubation varying from fifteen to sixty hours, the characteristic phenomena were developed with greater or less distinctness in each one of the six individuals experimented on—leaving no room for doubt that their inoculation with Fehleisen's cultivated micrococci had for its result the production, or rather the reproduction, of a genuine erysipelas.

Assuming the correctness of these researches, the proof of the contagiousness of erysipelas would seem to be complete; the specific nature of the contagium and its etiological relation to the disease are both alike demonstrated. But, at the same time that the transmissibility of the disease from man to man by direct contact is thus shown, it is to be observed that this is not the only mode of contagion. There is good reason to believe that, besides *within* the human or animal body, the erysipelas-cocci propagate themselves *outside* of it, and may be diffused in swarms through the air. Hence, in those not uncommon instances where in the causation of the disease *immediate* contact can not be traced, *mediate* contact or aerial infection may justifiably be inferred. And, this being so, it follows that the doctrine of the spontaneous generation of erysipelas, which still finds favor with some authorities, can have no *locus standi*. As of other diseases of parasitic origin, it must be said of this disease that it is perpetuated solely in obedience to the law of continuous succession. Further experiments by Fehleisen clearly prove that a certain immunity is acquired by a previous attack, and the question of the distinction of erysipelas from other zymotic diseases on this ground resolves itself into a mere question of degree.

FATTY DEGENERATION OF THE HEART.—The "Lancet" (February 16, 1884), commenting on the death of Cetewayo, which is supposed to have been due to "fatty degeneration" of the heart, says the medical evidence is not conclusive, but it is a fair presumption that death may have been caused as suggested. This conclusion must not, however, be hastily drawn from the fact that Cetewayo was a prodigious feeder. The popular error that "fatty degeneration" of the heart is the same thing as an accumulation of fat around that organ is one which ought to be corrected, as every practitioner, of course, knows how to correct it. When muscular tissue degenerates, as it may do from any one of many morbid causes, fat is deposited interstitially in the place of the atrophied organic structure. As a matter of physiological or pathological fact, "fatty degeneration" is quite as likely to occur in a thin subject as in one that is obese, and voracious feeding has nothing to do with "fatty degeneration," though in a certain proportion of instances it may have something to do with the accumulation of deposits of fat around organs and in the interspaces of muscle fasciculi. We ought to keep the discrimination of matters which are likely to be confounded always clear. Many conditions besides large eating determine the presence of fat, and "fatty degeneration" is, as we have said, something altogether apart from, and in no way to be confounded with, fatness.

Original Communications.

THE TREATMENT OF DIPHTHERIA AND CROUP

BY LARGE DOSES OF BICHLORIDE OF MERCURY.*

BY WILLIAM M. THALLON, M. D.,

BROOKLYN, N. Y.

MR. PRESIDENT AND GENTLEMEN: It is within the last few years only that the treatment of diphtheria and croup by means of large doses of the bichloride of mercury has been brought forward in therapeutics. I do not know exactly who was the originator of the method in question, but it is often called "Pepper's treatment," from the fact that Professor Pepper, of Philadelphia, has warmly indorsed it. I believe he ascribes the originating of the plan to a practitioner of Pittsburg, or its immediate vicinity, but I do not know this gentleman's name.

The way my own attention was led to the matter was thus: Some years ago, in reading in Schmidt's "Jahrbücher" an account of Robert Koch's experiments on germicides, I was very much struck with the extraordinary antiseptic properties of bichloride of mercury. Shortly afterward I read an interesting paper by Wood and Formad, of Philadelphia, on the existence of certain specific bacteria in the blood and the exudate of diphtheria, and their experiments in inoculating healthy animals with the disease.

Combining the thoughts suggested by these two different sets of experiments, I made some calculations then as to the quantity of mercuric bichloride that would be required to sterilize the blood, and to these I will refer again later on.

The matter rested thus in my own mind until, in talking with my friend Professor Armor on this point, he told me that he had recently heard of some cases in the practice of Professor Pepper where this line of treatment had been successfully carried into effect. From this I was led to try the remedy, and I shall presently give you all the clinical evidence I have on the subject. I appreciate very well that this method of treatment is to be judged entirely by clinical results. If these prove bad, no pathological theory of its action, or belief in its germicidal virtues, will be of the least compensation. But, in order to give the method a fair trial, there are certain points that must be observed. In the first place, the treatment consists in large and frequently repeated doses of corrosive sublimate—the bichloride of mercury. I wish to insist at the outset that this is an entirely different thing from the treatment of the disease by the mild chloride of mercury—calomel. Some years ago Dr. Corbin read an interesting paper on the Calomel Treatment before this society. Other salts of mercury have had their enthusiastic advocates, but the bichloride is an entirely different thing—it is different in its chemical affinities, in its physical properties, especially its solubility,

and, above all, in its physiological relations, especially its absorptibility. Therefore, the bichloride treatment must stand or fall on its own merits.

The drug has been used in two ways in the treatment of diphtheria:

1. As a local application, either in the form of a spray or wash to the diseased parts.
2. As a constitutional remedy.

It has been used only in this second manner in all the cases that I will report this evening. I must confess that I am somewhat skeptical as to the value of local treatment in diphtheria. At most I am inclined to use locally only such means as are sedative to the inflamed parts—such as ice.

I do not think it is practicable to destroy the organisms which are undoubtedly present in the foul-smelling membrane of diphtheria by a sufficiently strong wash of bichloride of mercury without exciting an amount of irritation, which far more than counterbalances the possible good.

Besides, our throat applications are only on the surface; they don't reach deep enough. While it is more than probable that the entrance of the diphtheritic poison is effected through the throat, long before we recognize the disease by its characteristic exudate, a constitutional infection has occurred.

The disease kills, not by its local but by its constitutional effects. The only exception that can be taken to this statement is in cases of membranous croup in children, and here a truly antiseptic application to the larynx is entirely out of the question. I make these statements with some diffidence and simply in explanation of my practice. Should further evidence and the testimony of reliable observers convince me of the value of bichloride of mercury as a local application in these cases, I shall gladly adopt it. But until I experience such a change of heart I shall continue to use as local remedies in diphtheria those agents which are soothing and not irritant to the parts, and which conduce to the comfort and not the discomfort of the patient. It is therefore purely as a constitutional remedy that I have used the bichloride of mercury in these diseases, and it is on its value in this domain that I shall base any claims for it I may subsequently make.

With regard to its mode of administration, the first point is that it should be given largely diluted with water. I think this should be invariably insisted on, because thereby you avoid the possible danger of irritating the mucous membrane of the stomach. I had one case—not of the diseases under consideration—in which I believe emesis was provoked chiefly because the mother gave the bichloride undiluted, contrary to orders. When thus freely diluted, I have never seen any irritant effects produced by its use—either on the gastric or intestinal mucous membranes. In none of my cases has vomiting or purging occurred. I think you will admit before I get through that these cases show a remarkable tolerance of the drug quite out of all proportion to what we should expect judging from the standard of health.

With reference to how long these large doses of the bichloride should be used, I should say as short a time as

* Read before the Medical Society of the County of Kings, March 18, 1884.

necessary. And the criterion which I have mainly followed is the state of the false membrane. If this is increasing, I increase the drug; if it is stationary, I maintain the same dose; if it is decreasing, I diminish the remedy; and, if the membrane has disappeared, I at once stop the bichloride.

I have found it convenient to have two standard formulas, according as I wish to combine iron with the mercury or not. I generally write for a three-ounce mixture, with half a grain of the bichloride, so that each teaspoonful contains about one fortieth of a grain. The following are my prescription models:

FORMULA I.

- R Hydrargyr. bichlor., gr. ss.;
Tinct. ferri chlor., f ʒ iij;
Glycerin., f ʒ ss.;
Aqua, q. s. ad f ʒ iij.
M. Sig. f ʒ j, as directed, in water.

FORMULA II.

- R Hydrargyr. bichlor., gr. ss.;
Vin. pepsin.,
Elixir bismuthi, aa ʒ jss.
M. Sig. f ʒ j, as directed, in water.

The second formula is the pleasantest way of prescribing the remedy, and it is the one used by Dr. Pepper, as Dr. Armor informs me.

Practically, I now generally begin with the second formula, and, when convalescence has commenced, I resort to No. 1 to get the benefit of the iron.

CASE I. DIPHTHERIA.—Tillie R., aged eighteen, born in the United States, unmarried, residence on western slope of Prospect Park, weight about one hundred pounds. I was first called to see the patient on July 28, 1883.

Found a thin, anæmic girl, who complained that she couldn't swallow, that she had been feeling poorly for a week or more, but had got much worse during the last twenty-four hours. She thought she had "quinsy sore throat," as she had suffered from that trouble before, and with this in mind she had been poulticing her neck. Her four sisters had all complained of sore throat, etc., during the last few weeks, and they all looked pale and anæmic. Patient complained of pain in back and head, especially at night; darting pains in right ear and submaxillary region.

Examination.—Temperature, 103.75° F. Pulse, over 110. Respirations slightly quickened. On looking into the throat, the whole of the pharynx was found covered with a dirty, grayish membrane, foul smelling and tenaciously adherent; it was very sharply limited on the soft palate, where an abrupt ragged line of deep red contrasted with the pale mucous membrane in front. Two patches of membrane in different stages of formation—one about the size of a one-cent piece, the other of a two-cent piece—were observed on the soft palate. Bowels costive and tongue thickly coated. Voice hoarse and nasal, breathing through mouth. Could not open her mouth wide because of the pain it gave.

On investigating the sewerage I found a stationary basin and overflow pipe in the room, and these communicated directly, without any intervening trap, with the sewer-pipe, just in front of where the soil-pipe from the water-closet emptied into it. In this way there was free regurgitation of sewer-gas, etc., into the sleeping apartment.—Diagnosis, diphtheria.

I at once ordered the patient to be moved into a large, well-ventilated room, and had the plumbing put to rights. The patient was put upon the first formula, getting $\frac{1}{16}$ gr. of the bichloride every three hours. In addition, a cathartic that night of calomel, gr. v, and co. jalap powder, gr. x.

In the way of food, as much milk and beef-tea as she would take, and three milk punches daily. Also small pieces of ice.

Next day, July 29th.—I saw her in the morning: the bowels had moved freely, and she had taken a pint of milk and two cups of beef-tea. Complains greatly of throat. Says the medicine hurts, so I ordered it to be freely diluted. Has coughed up a great deal of mucus and some membrane. The two smaller pieces of membrane on the palate were not visible.

They sent down that night, as she was in great pain, so I ordered the bichloride to be increased to once in every two hours; and, in addition, gave some liq. opii co., \mathfrak{v} iij, and sod. salicyl., gr. v, every two hours till relieved.

Next morning, 30th.—The temperature was 101.5°. Pulse, 100. Had slept some from the opium, but this morning it had made her vomit twice, and she had, in throwing up, dislodged some membrane, one piece as long as the middle finger, which had greatly relieved her. Had taken more nourishment. Continued bichloride as before, also the opium if needed; and, instead of the sodium salicylate, ten grains of quinine at noon.

31st.—Temperature, 103°. Pulse, 90. Felt more comfortable, and throat better; has had so much distress at times in coughing up membrane that she has used hot water to make her vomit; has raised much mucus. More nourishment taken. Increased the bichloride to $\frac{1}{8}$ gr. every two hours. Otherwise the same.

August 1st.—Temperature, 101.75°. Pulse, 95. Great deal better; more nourishment taken; quinine makes her head ache, so diminished to six grains. Diminished bichloride to $\frac{1}{8}$ gr. every four hours. As her bowels had not moved freely, gave a laxative.

2d.—Temperature, 101.25°. Pulse, 90. Improving rapidly. Throat much better; can swallow without pain; voice is more natural; coughs up less; can not see any membrane to-day. Eats with relish, and a good deal.

3d.—Pulse, 90. Temperature, 101.5°. Same treatment.

4th.—Pulse, 95. Temperature, 101°. Throat looking well, sleeping and eating well; diminished bichloride to $\frac{1}{16}$ gr. every four hours.

6th.—Temperature, 101.25°. Pulse, 90. Not so well yesterday; complained much of aching in bones and in neck (cervical lymphatic glands). Throat looks very well; diminished the bichloride to $\frac{1}{16}$ gr. three times a day. Stopped the quinine.

8th.—Temperature, 99.5°. Pulse, 82. Steady progress; sitting up. Throat still somewhat injected, but more normal. Sleeps and eats well. Bowels regulated by pulv. glycyrrhizæ co. Bichloride same— $\frac{1}{16}$ gr. t. i. d.

12th.—Temperature, 99.5°. Pulse, 80. Improving; more strength; throat about same. Substituted bitter tonic.

September 1st.—Is quite well; eats and sleeps well, and is gaining flesh rapidly; has gained ten pounds in two weeks, and has more flesh and blood than at any time in last year.

Note six months later.—Patient has had none of the sequelæ of disease, but has continued in good health. This patient took altogether, in fourteen days, about $3\frac{1}{2}$ grains of the bichloride of mercury, and during four days, when she was on the largest doses, nearly two grains.

CASE II. MEMBRANOUS CROUP.—Areta P., aged four years, born in United States. Weight about forty pounds. On Wednesday, February 13th, I was called in the evening to see the little patient. Dr. Skene had seen her two days previously, and had prescribed a mixture containing sedative doses of

quinine, as she was suffering from fever. She had been ailing for two weeks, complaining of general malaise and headache, and the child was languid and pale, and without much appetite. The throat symptoms had all developed in the twenty-four hours previous to my first visit. Her pulse was 140, her temperature 102.5° . She had some cough, and her voice was hoarse and thick. Her mother stated that she had been having paroxysms of coughing and choking, especially on waking up. On listening to her chest, I found no signs of trouble there. Her skin was hot and dry, her tongue heavily coated. On examining her throat with the light reflected from a laryngeal head-mirror, the soft palate and upper portion of the tonsils appeared of a dirty, anæmic color. Below this, on the posterior wall of the pharynx and reaching forward to the tonsils, was an abruptly limited zone, deeply injected and of a bluish-red tint. So abrupt was the line of demarkation between the inflamed and the non-inflamed areas of mucous membrane that it looked as if a caustic had made it.—Diagnosis, membranous croup.

Treatment.—I at once ordered solution No. 1, giving $\frac{1}{16}$ of a grain of the bichloride, with the addition of two drops of liq. opii comp., to be repeated every three hours. In addition, the quinine was kept up and lime was slacked in the room. The next day (Thursday) Dr. Skene and I both saw the child, but no change was made in treatment. The temperature fell about half a degree, but the laryngeal symptoms increased, as there were more frequent and distressing paroxysms of coughing and complete loss of voice. The father of the child, who was in Cuba, was telegraphed for. The next morning (Friday, 15th) Dr. Armor saw the child in consultation, and agreed that it would be well to increase the dose of bichloride and omit the other ingredients. She was therefore put on the use of solution No. 2, getting $\frac{1}{16}$ of a grain of the bichloride every hour and a half. A spray of chloride of ammonium was kept up by means of a croup-kettle, and the slacked lime was discontinued. Sulphurous-acid fumes were tried for a short time, but were so disagreeable to the mother that they were discontinued. The only other medicine used was paregoric in five-drop doses, to quiet restlessness. The quinine was stopped, as the temperature diminished about half a degree each day; the pulse was about 110; her bowels moved freely, and her general condition was more comfortable. She took a fair amount of nourishment—milk, milk punch, beef-juice, and ice.

But the throat symptoms remained so threatening that I stayed with the child all that night (Friday), with a tracheotomy tube in my pocket, and prepared to operate if her breathing became more obstructed. Next day she was a little easier, and, when Dr. Skene was there in the morning, she coughed up a piece of membrane from the larynx, which he examined and described to me as of a leather-like consistence, one eighth of an inch thick, half an inch wide, and three quarters of an inch long, and as perfect a specimen of true diphtheritic membrane as he had ever seen; there were also several smaller pieces expelled in detached fragments which would make up about as much more as the large piece. From this point on the improvement was steady. The bichloride was discontinued on Tuesday, the voice having been largely regained.

The child's further convalescence was uneventful and steady, and she took first a bitter and then an iron tonic. She was considered quite well one week after the discontinuance of the bichloride, and up to the present moment has remained so—no evil sequelæ of the disease having shown themselves.

During the five days and a half—130 hours—that she was taking the bichloride she had taken in all a little over two grains, the mother's idea of a teaspoonful being more liberal than a drachm, and during one period of twenty-four hours the child took over half a grain of the drug.

CASE III. DIPHTHERITIC PHARYNGITIS.—During the convalescence of the preceding patient, just eight days after the subsidence of the acute symptoms, the brother of the patient, a boy of about nine years, suddenly developed throat symptoms. He was seen on Tuesday by Dr. Skene, and then had a well-marked diphtheritic exudate on both tonsils. He was at once put on the bichloride of mercury, $\frac{1}{16}$ grain every hour and a half (formula No. 2), and nothing else was given. The next day I saw him and the membrane was almost entirely gone, and on the following day not a trace of it could be seen. His further recovery was uneventful and steady.

This case is of interest from its close relationship to the preceding, and would seem to show the identity of the poison producing the membrane of membranous croup and the membrane which we call diphtheritic on the tonsils or pharynx. It is most interesting in showing how promptly this case yielded when put on large doses of bichloride of mercury at the very beginning of the attack. He took altogether about three quarters of a grain of the bichloride, nearly one half a grain being taken in the first twenty-four hours.

CASES IV, V, and VI. TONSILLITIS WITH DIPHTHERITIC EXUDATE.—For the facts in the following three cases I am indebted to Dr. Skene. All three patients were inmates of the same household. I need not give the details of the cases very fully, except inasmuch as they illustrate one point.

The daughter, aged about eighteen years, and the maid-servant, aged about twenty-four years, each had a violent chill followed by fever, headache, coated tongue, etc., in the afternoon of the same day. When seen by the doctor the following morning, each had a well-marked pharyngitis and tonsillitis, and considerable diphtheritic exudate on the soft palate and tonsils; this was about the same in extent in the two cases. Both patients were put on the bichloride treatment (formula No. 2) in the same doses, gr. $\frac{1}{16}$ to the teaspoonful, the same mixture, and both were told to take a teaspoonful throughout the day and following night. At night-time the daughter slept alone in her room, and did not take her medicine, and thus missed four or five doses. The servant, on the other hand, had a companion stay with her (another servant), who administered the medicine regularly throughout the night, so that this patient did not miss a single dose. The next morning, when the doctor saw them, the daughter, who had not taken the bichloride regularly, still had the diphtheritic exudate in her throat, but little if any diminished in extent from yesterday, while the servant, who had taken her medicine regularly, had scarcely a trace of the membrane left. Both subsequently recovered, but the servant was well first.

The above-mentioned two cases seem to me to furnish a most admirable test of the value of this treatment, and they go to prove that a certain amount of the drug—far in excess of a tonic dose—has to be given to produce its characteristic effects in diphtheria.

The third case in the family occurred about a week subsequently in the person of the lady of the house.

The trouble began, as the others did, with a chill and fever, followed next day by the appearance of the exudate on the pharynx and tonsils, the membrane being much more marked in thickness and extent than in the preceding cases.

She was put on the bichloride of mercury (formula No. 2), getting $\frac{1}{16}$ of a grain every hour from the start, and the exudate rapidly melted away as in the other two cases and the patient made an uninterrupted recovery.

These three cases, all occurring in the same house, led to a careful investigation of how the trouble got into the family. The plumbing seemed to be in perfect order when inspected, and the hygienic surroundings of the family were of the best. The only other person who was affected was the man who came in to attend to the furnaces—from outside. Whether he brought the disease with him I don't know, but it would seem probable, for the order in which the patients were attacked was, first the furnace man, then the servant, then the daughter, lastly the lady of the house.

The total amount of bichloride taken in these cases can not be determined exactly, but in the first twenty-four hours in each case it was as follows: The servant, one fourth grain; the daughter, about one seventh grain; the mother, one half grain.

CASE VII. DIPHTHERITIC CROUP.—I was called on February 10, 1884, to see Edith T., aged four years and a half, born in the United States. She had had a violent chill early in the morning, and when I saw her, in the afternoon, her temperature was $103\frac{1}{2}^{\circ}$, her pulse about 130. Her skin was hot and dry, her tongue was thickly coated, and she complained of intense headache and pain on swallowing. She had been a little out of sorts for a day or two, her mother said, but nothing to alarm them. Her voice had become husky within the last twenty-four hours. On looking into her throat, the upper portion, including the whole soft palate, upper part of tonsils, and upper portion of pharynx, was of a pale and anæmic color, while below a well-marked line of demarcation it was a bluish-red. This inflamed part had a slightly glistening appearance, that strongly suggested to my mind the slippery pouring out of plastic exudate.

I at once ordered formula No. 1, giving $\frac{1}{16}$ gr. of bichloride every two hours, also the next morning six grains of quinine in solution. If the bowels did not move before night, an oil enema was to be given. I saw the case the next day, when the temperature was below 102° and the pulse about 110. The bowels had moved without the enema. Headache and soreness of the throat decidedly less, though the appearance of the throat was about the same. Diminished the quinine one half, but continued bichloride same. The next day the child was better, so I discontinued the quinine altogether; diminished the bichloride one half.

The following day, being the fourth from the day of invasion, she was so much better that I diminished the bichloride to a minute dose— $\frac{1}{32}$ gr.—three times a day, in conjunction with an iron tonic, and from this point she steadily progressed, and was taken to the country, a distance of some hundreds of miles, on the eighth day. She took altogether about three quarters of a grain of bichloride, of which five eighths was given within the first seventy-two hours—one-half grain in the first forty-eight hours.

I was quite unable to trace any cause for the attack in this case. It may seem unwarranted to make a diagnosis of diphtheritic croup in this case when I did not see at any time any true membrane; but the whole aspect of the case suggested to my mind that the membrane would very speedily have been formed had it not been prevented by the free use of bichloride of mercury.

CASE VIII. FOLLICULAR TONSILLITIS WITH DIPHTHERITIC EXUDATE.—I am indebted to Dr. Skene for the particulars in the following case: A boy of fourteen years, attending school, came home in the afternoon feeling ill, and had a restless, feverish

night. When seen early next morning he had a temperature of 103° , pulse 110. Had headache and pain in all parts of the body, especially the back; his tongue was coated, and he was nauseated. His throat had the characteristic appearances of incipient diphtheria; his tonsils (which were hypertrophied) presented the usual appearance of follicular inflammation with well-defined diphtheritic exudate around a number of the larger follicles. He was put on the usual mixture (No. 2) of bichloride, and, when he had taken, in all, one half of a grain, which he did inside of forty-eight hours, his throat was well, barring a little hyperæmia. He was then put on a tonic of iron, and at the end of one week returned to school in better health than he had been before the attack.

CASE IX. DIPHTHERIA AND SCARLET FEVER (Dr. Skene).—“E. S., a delicate girl, seven years old, with the following family history: Six months before she was taken ill her father died of tuberculosis; during the child's illness her mother died of the same disease. The child had been very delicate all her life, and subject to occasional attacks of severe acute dyspepsia. She had hypertrophied tonsils and many other of the characteristics of the tubercular diathesis, to which she was hereditarily liable, as the family history shows. She was attacked in the night with very high fever and profuse vomiting, but was somewhat easier next morning. Her grandparents, with whom she lived, took it for granted that this was one of her ordinary attacks of acute dyspepsia, and did not send for the doctor till the afternoon of that day. When she was first seen she had a well-marked diphtheritic exudate on her right tonsil which extended from this over the arch of the palate and covered two thirds of the uvula. Her temperature was 104° , and the pulse so rapid it was not counted. She was still nauseated and restless, and complained bitterly of her throat and head. I put her on the bichloride of mercury, one fortieth of a grain in elixir of eucalyptus every hour—as that vehicle had formerly been agreeable to her. She took very little nourishment the first twenty-four hours, and was very nervous and restless during the night. When I saw her the next forenoon, the exudation on the right tonsil and uvula had not increased in thickness, but it had extended to the left tonsil and involved half of it. The temperature was still a fraction over 104° , and she was covered from head to foot with a copious eruption of scarlet fever.

“I was somewhat disconcerted with regard to my therapeutics, for, although I had confidence in bichloride of mercury in the treatment of diphtheria, I knew nothing of its effects in scarlet fever, and here I had the two diseases unmistakably combined, I had never seen in my past experience a child of such faulty organization recover from an attack of scarlet fever and diphtheria, especially when the diphtheritic exudation preceded the cutaneous eruption. It therefore appeared to me that I could hardly have a worse result with the bichloride than I had with all other methods. So I kept on with the bichloride of mercury, giving one fortieth of a grain only every two hours now. From the end of the second day after I saw her the exudate did not extend, but gradually diminished. She made a most excellent recovery from the scarlet fever, and had none of the bad sequelæ of either disease.

“It is now over a year since this occurred, and during that period she has been in better health than ever before, and to-day she possesses a better organization than she did prior to this attack.”

I wish to add the notes of one case of an allied, if not identical, condition in which I have used large doses of the bichloride of mercury. I allude to the sloughing sore throat of scarlet fever which follows the cutaneous eruption in that affection in certain cases. I am not prepared to

make any suggestions as to the possible pathological relations between the poisons of diphtheria and scarlet fever, which have been so much canvassed of late, especially in the English medical journals. But it will not be denied that there is a remarkable similarity in the rapid necrosis of tissue—with the foul smell and rapid sloughing—between the two conditions.

CASE X.—I was called one Saturday morning in the fall to see Andrew G., a child of two years of age. The room I found him in was in a damp basement in a house on Butler Street, near Court Street. When I saw him he had a well-marked eruption of scarlet fever, which had appeared the day before; but the mother was mainly alarmed about his throat. On looking into this, it seemed to me as if the whole soft palate and tonsils were one mass of sloughing tissue. It could be easily scraped off, and then bleeding occurred. His temperature was 103° and a fraction, his tongue heavily coated, and the child restless and refusing to take any nourishment. I told the mother to grease him with fresh lard, to allay the cutaneous discomfort, and prescribed formula 1, giving him $\frac{1}{4}$ grain of bichloride every three hours. The next day he was worse, and the mother said it was impossible to give him that medicine, it made him vomit so, so he had only had one dose. I was unwilling to abandon the bichloride, so I wrote for it alone in water, and instructed the mother to give it freely diluted with water—a teaspoonful containing $\frac{1}{4}$ grain every three hours. On the following day the slough was very much less, and the smell was nothing like so foul as before. The following day an even hyperæmic redness was all that could be seen, and the child made an unbrokenly good recovery. What threatened to be a severe, if not fatal, attack of scarlet fever ran a mild course. The child has had no bad sequelæ that I know of.

The total amount of bichloride this child took was about half a grain, and all within three days. I think this result is very remarkable, considering the extremely bad hygienic surroundings.

(To be concluded.)

MEMORIAL SKETCH OF THE LIFE

OF

J. MARION SIMS, M. D.*

By W. GILL WYLIE, M. D.

MR. PRESIDENT AND GENTLEMEN: I am happy to say that Dr. J. Marion Sims has left an autobiography of several hundred pages, giving a full account of his life and work up to 1863; and that he left in manuscript a revised and more or less completed work on "The Surgical Diseases of Women," both of which are soon to be published. What I have to say to-night, up to the time when I first met Dr. Marion Sims in 1868, has been taken directly from the manuscript of his autobiography.

In his autobiography, after some preliminary remarks, he begins: "It is a trite saying, that 'every life is a poem, be it long or short.' Mine has been a real romance, full of incident, anxiety, hope, and care; some disappointments and many successes, with much sickness and sorrow; but it has also been full of joy, contentment, and real happiness.

"I was born in Lancaster County, S. C., January 25,

1813, about ten miles south of the village of Lancaster, a mile or more west of the old wagon road from Lancaster to Camden. The ancestors of my father, John Sims, were of the English colonists of Virginia. My mother, Mahala Mackay, was the daughter of Charles and Lydia Mackay, of Scotch-Irish origin. The family came to America about 1740." Lancaster at this time was a small village of about one thousand inhabitants, the county-seat of a farming district about twenty-five miles square. It was an out-of-the-way place, twenty-five miles from the nearest village. Dr. Sims says: "My father, feeling the want of an education himself, was determined to educate his children, and so he began with me at a very early age. He then kept a little store, about a mile north of Hanging-Rock Creek, on the road leading to Lancaster. This was in 1818. Mr. Blackburn, a Scotchman, had just opened a school in a log cabin in the old field very near the ford of this creek." It was here the doctor received his first lessons.

He relates a little incident that took place when he was about eight years old, which to me, knowing him as I did, is very significant. He was asked by an old friend of his father's to give the proper name of a certain weed. His answer caused the old gentleman to say: "I would advise you hereafter, and lay it up in your memory, as long as you live, never to presume to express an opinion on any subject unless you are informed on that subject."

The doctor says: "I was never so mortified in all the days of my life. I was exceedingly mortified, and I am sure that I have thought of Mr. Patterson a thousand times since then. When I have been called upon to give an opinion and didn't feel competent to give it, I have profited by the advice he then gave me." Of this I am certain, for Dr. Sims was very non-committal on all doubtful points, but was very definite, clear, and firm about what he did know. In 1825, when twelve years old, he went to Lancaster village, where his father had moved the previous year, and this same year the Franklin Academy was inaugurated at Lancaster; he attended school here for five years, and it was here that he met Theresa Jones. He became sincerely attached to her, and, long before they were engaged, she was a great influence in his life, and, together with his mother, who was a sincere, good woman and devoted mother, had much to do in establishing his good habits, noble sentiments, and high moral character. He was not noted at school, but was known as a bright, genial fellow.

In 1830 he entered the South Carolina College at Columbia, S. C. He says: "When I went there I was one of the best boys in the world. I do not know that I had a single bad habit. I didn't swear, I didn't drink, I didn't gamble; indeed, I had no vice that could be called a vice. I was such a good boy that my mother certainly expected me to be a Presbyterian clergyman." Having entered as a Junior, he graduated from South Carolina College in December, 1832. He says of himself: "I never was remarkable for anything while I was in college except good behavior. Nobody ever expected anything of me, and I never expected anything of myself. I felt really sorry that the time was drawing near when I would have to assume the stern duties and responsibilities of real life and of man-

* Read before the Medical Society of the County of New York January 28, 1884.

hood." At this time he was desperately in love, but was too poor to marry, and did not care to take up a profession. His father wished him to study law, but they finally agreed on medicine, and, when twenty years old, he began to read medicine under Dr. Churchill Jones. He remained with Dr. Jones for a year. Dr. Jones was a good surgeon, and it was here that Dr. Sims imbibed a desire to distinguish himself in surgery.

In November, 1833, he left for Charleston, S. C., to attend medical lectures at the Charleston Medical College. He was by no means precocious; at this time he was a beardless youth of twenty, and he says of himself: "I had failed in my duty as a student in my college course at Columbia; I was now determined to reform my methods. I had to prepare for a period that I had looked forward to not with pleasurable anticipation, but with dread. Most of the young men whom I had associated with all my life had looked forward to manhood with joy and satisfaction, but with me it was exactly the reverse. I was afraid to be a man; I was afraid to assume its responsibilities, and thought that I did not have sense enough to go out into the rough world to make a living as other men had to do. I was small in stature, and I did not feel that I had intelligence enough to grapple with or to pit myself against such opposition as I should encounter in life. So when I went to Charleston I went to work in real earnest." He remained in Charleston till spring.

October 1, 1834, he left home for Philadelphia, to attend lectures at the Jefferson Medical College. Here, as in Charleston, he devoted himself to his work, but did not distinguish himself in any way. In both places he boarded with families in which there were refined young ladies, and did not lead a wild life as a medical student. He graduated at the Jefferson Medical College at Philadelphia on the 1st of March, 1835. He says at this time: "I felt absolutely incompetent to assume the duties of a practitioner. . . . When I graduated, I presume I could have gone into the dissecting-room and cut down upon any artery and put a ligature around it, but I knew nothing at all about the practice of medicine. I had had no clinical advantages, no hospital experience, and had seen nothing of sickness."

He went home in May, 1835, his father rented him an office, and he began the practice of medicine, in Lancaster village. After waiting about two weeks he had his first patient—a case of cholera infantum. The child died. In two weeks after this he was called a second time, and again to a child with cholera infantum. He made up his mind that if this child died he would quit the town; and when it did die, a few days later, he took down his sign and prepared to go West. He was disgusted with medicine, and, if he had had money, he would never have given another dose. He says: "On the 13th of October, 1835—and the thirteenth, by the way, has always been a lucky day with me; and so has Friday; I was born on Friday . . .—I started for Alabama."

By chance he met some people that he knew, and he settled down in Mount Meigs, a small cross-roads place about twenty miles from Montgomery, Ala. He bought out one of the two doctors in this place and began practice. His

first case of importance was one that had been seen by seven or eight doctors from all sections, but was not helped by any of them. Dr. Sims diagnosed abdominal abscess, was bold enough to open it and let out the pus, and the man recovered. In a year's time he had a good country practice. In September, 1836, he was dangerously ill with malarial fever. The doctor wished to bleed him, but he would not let him, for he did not believe in it. This was his first serious illness. He never bled, and gave but little medicine.

Dr. Sims was married, on the 21st of December, 1836, to Miss Theresa Jones. In January, 1837, with his wife, he returned to Mount Meigs, and had a fair country practice. In 1838, Dr. Blakey, living about ten miles distant, in Macon County, offered Dr. Sims a partnership in a large practice among rich plantations. He accepted the offer, bought a little land and put up a double log cabin, and soon had a good practice. The first two of his children were born in this cabin. At this time he says of himself: "I am an example of a man who has never attained the ambition of his early life. My successes have been in a direction that I never dreamed of when I started. I felt no particular interest in my profession at the beginning of it apart from making a living; I worked at it earnestly, and at the end of five years I had become quite a respectable physician, and, I can truly say, quite a successful one. Still, I was really ready at any time and at any moment to take up anything that offered, or that held out any inducement of fortune, because I knew that I could never make a fortune out of the practice of medicine. I, of course, never dreamed of anything more than a living and a local reputation."

About this time he agreed to quit medicine and go into a clothing house, but the scheme fell through, and he kept at his practice. In 1839 he had as much as he could attend to.

In July, 1840, he nearly died of congestive chills, and determined to move to a more wholesome neighborhood.

On the 13th day of December, 1840, he moved to Montgomery.

He says: "The year 1840 was a memorable era in my life, and seemed to be a turning-point in my career. For the first five years of my professional life, 1835 to 1840, I was willing to turn aside to do anything to make money. But when I went to Montgomery I gave away my dog, sold my gun, and I have never loaded or fired a gun since. I devoted myself to my profession, determining to succeed, if industry and application could command success. I had an ambition for surgery—general surgery—and I was performing all sorts of beautiful and brilliant operations. This was before the days of anesthetics. I had made, in five or six years—1840 to 1845—such a reputation for surgery that people came to me from all parts of the State."

His first article for publication was the report of a case of hare-lip in the "Baltimore Dental Journal" in 1845, and in the same year, shortly after this, he wrote his celebrated essay on "Trismus Nascentium."

In June, 1845, he was called to see a case of instrumental labor which resulted in producing a large vesicovaginal fistula. Before this time he had had nothing to do

with diseases peculiar to women. He looked up the literature, and found that vesico-vaginal fistula was considered incurable; he had never before seen a case. "Strange to say," a month later another case was sent to him, and again, just one month later, a third vesico-vaginal case was sent from the country. He gave the patient a bed in his little hospital in his back yard, which he used for his negro surgical cases, and, of course, continued to read and think about the subject. He had been doing many operations in cases which before in that country were considered incurable, and here were three cases that seemed everywhere to be regarded as incurable. His success in other cases encouraged him to keep his mind on the subject. Just at this time, while one of these three patients was in his hospital, he was called to see a woman who had been thrown from a pony. She fell on her pelvis and retroverted her uterus. He put her in the knee-chest position, and, in replacing the uterus, the vagina was distended by air entering it. Comprehending what had taken place, he at once saw how he might be able to operate in a case of vesico-vaginal fistula. He started directly for home to try his experiment, stopped on his way to get a large spoon, bent it so as to retract the perinæum, and then went at once to his hospital and examined the case of vesico-vaginal fistula. He wrote at once for the other two patients with vesico-vaginal fistulae, and commenced to devise instruments with which to close the fistula. He succeeded in finding six or seven women with vesico-vaginal fistulae. He enlarged his little hospital by adding a second story, and then began the famous experiments.

Notwithstanding repeated failures during four years' time, he kept his six patients and operated until he tired out his doctor assistants, and finally had to rely upon his patients to assist him to operate. After four years he had perfected most of his instruments, and could succeed in partially closing the fistulae, but never in completely closing them. When his mind was full of the subject he came across a piece of small brass wire, and this suggested silver wire, and at once he went to a jeweler's and had some small wire made of pure silver. In May or June, 1849, he used the silver wire as sutures, and succeeded perfectly in closing the first vesico-vaginal fistula, and in two weeks more he cured two more cases.

About six weeks after his first successful case he was taken sick with diarrhœa. His health utterly failed, and he went from place to place trying to get well. Finally, when he fully expected to die, he says: "While lying in bed, I wrote out the history of my operations for vesico-vaginal fistula for the press, and sent the article to Dr. Isaac Hays, the editor of the 'American Journal of the Medical Sciences.' It was published in January, 1852." He had been North to New York and Philadelphia in 1849, '50, and '52. He would get better, but never entirely well, and finally made up his mind to sell out and come to New York to live. In May, 1853, he came North. In September, 1853, he bought the house, No. 79 Madison Avenue, and, although very much reduced in strength and health, still suffering from diarrhœa, he went to work. He made the acquaintance of Dr. Mott, Dr. Francis, Dr. Buck, Dr. Watson, and others. One of the doctors had a case of lacerated perinæum, and asked Dr.

Sims to show him how to repair it. This he did successfully. Subsequently the same doctor asked the loan of Dr. Sims's instruments to use in the New York Hospital, but did not invite Dr. Sims to assist or to see the operation. Dr. Valentine Mott gave Dr. Sims his first case of vesico-vaginal fistula in New York; this he cured, and soon the leading men were operating upon lacerated perinæums and fistulae, but Dr. Sims was left out. Dr. Sims saw that he must have a hospital for his work. Dr. Francis was always true to Dr. Sims, and could be relied upon; but the leading clique were against him, and he could do nothing through them or through any one that they could control. Dr. Stevens had been carried away by Dr. Sims's enthusiasm, and had promised to give him a chance to bring his plans before the profession; but afterward he said: "I have been talking with my friends in the medical profession, and I find here such a degree of universal opposition to you and to your enterprise that, I am sorry to say, I can not now give you the privilege or opportunity of addressing the profession under my auspices." Such opposition as this, together with threatened want, would have driven Dr. Sims from New York, but his wife would not consent to leaving, and her cool courage kept him here. By chance a friend brought Mr. Henri L. Stuart to see Dr. Sims, to advise him about establishing the Woman's Hospital. After hearing the doctor's story, Mr. Stuart said: "We will rent Stuyvesant Hall; we will advertise in the newspapers for the doctors to attend a meeting which is to be addressed by Dr. J. Marion Sims, late of Montgomery, Ala., on the necessity of a hospital in the city of New York for the treatment of the diseases of women. We will invite all the leading doctors in town by special cards, and they will come to hear you; and they will be wise enough to indorse what you have to say. If you tell your story to the crowd of doctors that I will get there as you have told it to me, we will carry the day." Mr. Stuart at that time was influential with the daily press of New York.

In May, 1854, the meeting was held, and it was by this means that Dr. Sims obtained the public indorsement of the medical profession which he could not get by direct appeals made to leading doctors. Dr. Sims selected for a committee Dr. Delafield, Dr. Mott, Dr. Stevens, Dr. Green, and Dr. French; and, subsequently, Mr. Peter Cooper and Mr. E. C. Benedict were put on the committee. Nothing else was done till fall; then Mr. Stuart said to Dr. Sims: "Now you have done with the doctors all that you can hope to do. You have their public indorsement, and they can not take it back. You have nothing to hope for from the doctors; your only chance is by appeal to the heads and hearts of intelligent women." The first woman that Dr. Sims succeeded in getting interested in his work was Mrs. Elisha Peck, now Mrs. Abernethy; through her he got at several others, but made little headway until he saw Mrs. Doremus. After hearing his story, she said: "Mrs. David Codwise must be first directress of this institution; Mrs. William B. Astor, second directress; Mrs. Ogden Hoffman, third; Mrs. Webster must be the secretary; and Mrs. Jacob Le Roy, treasurer.*

* Examination of the first reports shows that Mrs. Forlyce Barker was the first secretary.

On the 5th of February, 1855, Dr. Sims saw Mrs. Codwise and succeeded in interesting her. "On February 10, 1855, a meeting of the ladies was called at the house of Mrs. Codwise, and the Board of Lady Managers was organized precisely as Mrs. Doremus had said that it should be, and they at once appointed a committee to rent a building and open a hospital as soon as possible. A few days after this, Mrs. Doremus and Mrs. Codwise were called upon by prominent doctors, who endeavored to convince them that they were making a mistake, that they had been deceived, that no such hospital was needed," etc. But they failed in their mission. Dr. Sims says: "The Woman's Hospital, from the day that it was opened, had no friends among the leaders of the hospital men. I was called a quack and a humbug, and the hospital was pronounced a fraud. Still it went on with its work." The Woman's Hospital was inaugurated, at 83 Madison Avenue, on the first of May, 1855. Patients came in, and it soon proved a success. Dr. Sims says: "The hospital had been opened about six months when I told the Board of Lady Managers that I must have an assistant. They assented, and I selected Dr. F. U. Johnston, Jr.; but he had other plans. I then offered the place to Dr. George F. Shrady; he did not see fit to accept it." Soon after this Dr. Thomas Addis Emmet was appointed.

(To be concluded.)

A CASE OF ADENOMA OF THE RECTUM.*

By WILLIAM M. POLK, M. D.,

PROFESSOR OF OBSTETRICS AND THE DISEASES OF WOMEN AND CHILDREN IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK; SURGEON TO BELLEVUE HOSPITAL, DEPARTMENT OF DISEASES OF WOMEN.

THE patient was admitted to Ward 23, Bellevue Hospital, December 12, 1882, being then forty-four years old. Up to six years ago she had good health, and yet for some fifteen years she has had some pains in the back and groin, which seemed to have some connection with menstruation, as they were worse during the periods. Having no other uterine symptoms, she paid but little attention to the matter. She has had four children, all born easily, by natural labor. Careful inquiry and examination have failed to elicit any evidence of syphilis, either in her own case or in that of her parents; nor was there any evidence of cancerous inheritance. All her functions have been in the best state, especially menstruation, which, however, has ceased for some years. I now copy from the history as prepared by the house physician, Dr. Fruitnight:

The present ailment dates back six years. It showed itself first by losses of blood at stool, which she attributed to piles. She does not know of what color the blood was at first, but for the past fifteen months it has been dark, clotted, and more abundant. She has had pain in defecation for the past three years, lasting several hours. The pain has gradually grown worse, and for the past eighteen months it has been intolerable. It was burning and aching in character. For the last year and a

half she has been very costive, the bowels moving only after taking a cathartic. Occasionally she has ardor urinæ. For four months past she has scarcely been able to walk, on account of the pain.

On admission, she presents a sallow appearance, and is greatly emaciated; her appetite is poor, her bowels are constipated, and she complains of pain, dull and aching in character, in the back and thighs, and of burning pain in the rectum when defecating. She complains also of dizziness and of a sinking sensation in the epigastrium. She is in a wretched condition, mentally and physically. The lungs, the heart, and the abdominal viscera are normal.

Digital examination of the rectum shows a stricture about half an inch above the anus, extending up the gut about two inches. The stricture admits the index-finger with difficulty. It is due to a growth in the wall of the rectum, extending entirely around the gut. The vagina is not involved. Just above the stricture there is a small ulcer on the posterior wall of the rectum. The growth is very firm to the touch, and a rectal examination is very painful.

December 18th.—At the clinic to-day the patient was etherized, and the tumor was removed. An incision was first made from the anus backward to the coccyx; then, by means of the finger and the handle of a scalpel, the tumor, with the lower part of the rectum, was cut away from the external sphincter, an effort being made to save that structure, as it was not involved in the degeneration. Care was taken to secure all vessels with ligatures, and the enucleation was continued until the tumor was detached from the surrounding tissues, avoiding puncture of the vaginal wall. Then the rectum was ligated in sections just above the tumor, after which it was divided just below the ligature. The amount of blood lost did not exceed half an ounce. The rectum was drawn down and stitched to the sphincter ani in front and at the sides. The first incision made was not closed. A drainage-tube was introduced, and the wound was stuffed with borated cotton saturated with carbolic oil. The mass removed was about as large as a duck's egg, the thickest portion of the growth being situated laterally and posteriorly.

An unfortunate result of the operation was sloughing of that portion of the vaginal wall that lay next the tumor. The stitches attaching the cut edge of the rectum to the sphincter tore out, so that a recto-vaginal fistula was formed. With this exception, everything went well. The patient made so good a recovery that at the end of six weeks it was determined to make an attempt to close the fistula and restore the action of the sphincter. She was so impatient of delay that it was resolved to complete both operations at one sitting.

The state of affairs at this time was as follows: The opening in the vaginal wall was as large as a three-cent piece; the anterior edge of the remains of the rectum was united to the upper edge of this vaginal opening. The incision made to the coccyx had closed along its posterior third, and the large excavation in the ischio-rectal fosse made by the removal of the tumor had filled up to within three quarters of an inch of the surface. The rectum was not in immediate contact with the cut ends of the sphincter, as the stitches at this point had fared the same as those in the anterior margin.

The operation now performed was this: The edges and the lower or rectal surface of the fistula were pared, and the

* Related, with the exhibition of the patient, before the New York Obstetrical Society, June 5, 1883.

inner face of the upper portion of the sphincter was treated in a like manner (the lateral portions of the sphincter having maintained their relation to the cut edge of the rectum); then the rectum was cut way from its attachment to the upper margin of the vaginal fistula, drawn down, and stitched to the sphincter. In this way the cavity of the rectum was cut off from that of the vagina, the anterior rectal wall filling the opening. As the sequel showed, it would have been better to stitch the wall to the opening, removing the stitches on the third or fourth day.

The next step was the closure of the sphincter. The incision in the post-anal region had closed, so that the superficial extent was an inch and a half, the depth being about three quarters of an inch. The two faces of the cut had now been covered by a thick cicatricial structure; this was pared down, and sutures were introduced as in perineorrhaphy. So much of the cicatricial membrane had been unwisely removed that, when the sutures were tightened, they tore out of the loose ischio-rectal tissue at the bottom of the wound, making it impossible to approximate the surfaces in their entire extent; it became necessary, therefore, to introduce and bring them out full two inches from the incision, well back on the buttock. Quills were then placed at the ends, and upon these the sutures were tightened. In this way the tension upon the tissue at the bottom of the incision was so far diminished, the lines of the sutures being nearly straight, that perfect apposition was obtained. The cut edges of the sphincter were connected by one suture passed close to the edge, as in the repair of this muscle when torn from above. The sphincter being relaxed, no tube was introduced to allow of the escape of flatus, but the bowels were kept constipated for a week, and were then moved without accident.

The result of the operation was not perfect, but enough success was obtained to add greatly to the patient's comfort. The post-anal region was closed to the edge of the sphincter, but the attachment of the rectum to the anterior margin of the sphincter was imperfect, so that the vaginal fistula remained. With the patient standing or sitting, however, the anterior rectal wall prolapsed enough to close the opening by a ball-valve action.

The net result of the first operation was the restoration of the patient to a sufficient degree of health to permit her to work daily as a dressmaker, the entire removal of pain and, with it, of the constipation—the prolongation of a useful life for two and perhaps a greater number of years. The result of the second was freedom from constant involuntary evacuation of feces and gas, for, unless the bowels are loose, a rare event with her, she has sufficient retentive power for self-protection.

The subjoined report and drawing, made by Dr. W. H. Welch, sufficiently explain the nature of the growth:

All of the coats of the rectum are greatly thickened. The situation of the mucous membrane is occupied by a new growth of the following characters: In a stroma of reticulated or adenoid tissue lie imbedded irregular tubular glands lined by cylindrical epithelium. These tubes are much more irregular in shape than the normal glandular tubes of the rectum. They frequently send off prolongations, which anastomose with each

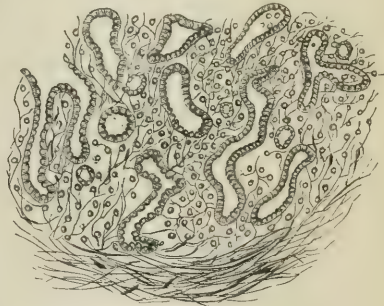
other. The epithelial lining has in places the characters of the so-called goblet-cells. These glands occupy an extent of tissue of about four times the normal thickness of the mucous membrane. Occasionally the gland spaces are filled with epithelial cells. The intertubular tissue is extremely rich in small round cells.

The outer coats of the rectum are thickened by an hypertrophy of the muscular coats and by a new growth of dense fibrous tissue.

The tumor is an adenoma. The new-formed glands are atypical in arrangement, shape, and structure, which gives to the structure a malignancy which simple adenomata do not possess.

Many of these tumors of the rectum have all the clinical characters of carcinoma of the rectum. Secondary growths may form in the liver and other organs, of the same character as the primary growth.

Writers differ as to the classification of these atypical adenomata; thus, Cornil and Ranvier describe and picture them as cylindrical-celled epithelioma; Harrison Cripps, in his elaborate monograph on "Tumors of the Rectum," gives beautiful drawings of this form of tumor, and calls it cancer. While recognizing the malignancy of these growths in many cases, it seems preferable to call them atypical adenomata. The accompanying sketch shows the leading characters of the new growth.



Writing at this date, it may not be out of place to reproduce a summary of the reported cases that appeared in the "Medical News" of October 13, 1883. Under the heading "Is Extirpation of the Cancerous Rectum a Justifiable Operation?" we find the following:

Lest this number may be deemed too limited to represent the actual state of facts, we have to add to the cases of Czerny 198 additional ones of which we have a record. Of the entire number, or 223, 180 recovered, and 43, or 19·3 per cent., died. Of 142 in which the final result is known, 64 remained well for periods varying from two months to ten years, and 78, or 54·9 per cent., recovered. Omitting the cases in which the recovery at the date of the last report had lasted from two to sixteen months, we have 35 cases in which there was no reproduction of the disease for two years and upward, 13, indeed, having remained well for between five and ten years, so that 15 per cent. of the entire 223 were in all probability permanent cures. If three years and upward be regarded as still better representing a probable immunity from recurrence, the 28 cases which come under this category show 12·5 per cent. of cures, while the 21 cases which represent four years and upward make the number of cures 9·4 per cent. With these results before us, and they are far better than have as yet been secured for carci-

noma of other organs, we have no hesitation in answering our self-imposed question in the affirmative.

NOTE, April 1, 1884.—The patient has just come back to the hospital. An examination shows that the disease has returned, having now invaded the tissues in the ischio-rectal fossa, and the rectum being filled with a diseased mass. The vaginal fistula is no larger than a buckshot. Her general health is very good, and she has been able to work for the last ten months. The returning disease has pushed in between the cut end of the rectum and the sphincter, nearly closing the anus. The latter can easily be dilated, but the infiltration into the buttock is too extensive to justify more than this.

A CASE OF MALIGNANT PUSTULE CAUSED BY THE BITE OF A FLY.

BY A. C. GRIFFIN, M. D.

THE following case, which occurred in my practice, I deem worthy of notice on account of its comparative infrequency:

The patient, a male, aged thirty-five, of fair physique, and a moderate drinker, came into my office to be treated for a very painful swelling of the left cheek, for which he could assign no cause. It had grown very rapidly since the preceding day, when he had first noticed it as a small pimple.

On examination, the swelling was found to be of a somewhat circular form, about 25 mm. in diameter, and extending through the whole thickness of the cheek, implicating the skin and mucous membrane, to which it was firmly adherent. The swelling was indurated to such an extent as to greatly resemble the ivory hardness of carcinoma. It was extremely sensitive to pressure, and the patient complained of very severe lancinating pains radiating through it. In the center of this swelling, 15 mm. above and 20 mm. external to the ala of the nose, was situated a small ulcer, which was covered by a closely adherent layer of pus of a grayish, unhealthy appearance. Surrounding the ulcer was a wide areola of an angry red, erysipelatous hue. The cervical and submaxillary lymphatics were enlarged and tender to pressure. Pulse 120, temperature 103.2° F., tongue slightly coated, violent headache, and complete anorexia. The patient complained of great prostration, excessive nervousness, and an extreme fear of impending death. On questioning him in regard to this severe and sudden prostration, the patient remembered that, while eating dinner the previous day at a restaurant, he was bitten on the cheek by a large fly at the exact seat of the ulcer, but he had not suspected that as a cause.

I made a diagnosis of septic infection, or what I believe to be malignant pustule. I at once thoroughly cauterized the ulcer with pure carbolic acid, applied cooling and sedative lotions to the swelling, and placed the patient on full doses of quinine and alcohol. Sufficient morphine was given to relieve pain and quiet nervousness. On the following day the condition of the patient was much worse, the induration had greatly enlarged in size, extending from the upper lip to the orbital cavity, also implicating the nose, being fully 60 mm. in diameter. The ulcer had also increased by a process of sloughing to a diameter of 20 mm.; the destruction of tissue was quite extensive, as the ulcer extended nearly through the thickness of the cheek. The edges of the ulcer were composed of exuberant granulations, quite protuberant, and bled quite freely from the slightest contact, and from the cavity thus formed there was a profuse discharge of a thin, ichorous fluid of a peculiarly offensive odor. Delirium now supervened. Pulse 140, temperature 104.8° F., tongue heavily coated with a brownish-yellow fur, the bowels

were constipated, the cervical lymphatics were very much enlarged, quite tender to pressure, and threatening suppuration; the patient meanwhile complained constantly of severe pain. Pure carbolic acid was again applied to the ulcer, to destroy the exuberant granulations, and to prevent, if possible, further septic absorption. Poultices were applied over the swelling, morphine, quinine, and alcohol were given in increased doses; a mild cathartic was also administered. The patient grew progressively worse until the sixth day from the receipt of the bite, when his condition was one of extreme prostration, with very little hopes of recovery. The treatment had consisted of thorough cauterization of the ulcer each day, poultices to the swelling, and the free use of alcohol and quinine, with sufficient morphine to allay the pain. By the aid of this free stimulation the patient was enabled to overcome the virulence of the septic inoculation, and on the seventh day his condition had slightly improved. The induration became somewhat softer and slightly diminished in size, the ulcer began to assume a healthy appearance, normal granulations sprang up covered with laudable pus, and the areola had become less vivid in color. From this time on the case progressed favorably, the induration of the cheek and the swelling of the glands subsided, the cavity left by the ulcer filled up and healed, leaving a moderate-sized cicatrix, and the patient's general condition advanced steadily toward its normal standard.

On making inquiries about the restaurant, it was found that the employés had been in the habit of throwing waste scraps of meat and other refuse into a back yard. This practice having been complained of, it was stopped by an order from the Board of Health, and for several days afterward the flies swarmed about the restaurant, annoying all by their savageness. So far as could be learned, this was the only person of those exposed whose physical state was in a condition susceptible to the inoculation of septic material, which was undoubtedly conveyed to the blood of this patient by the bite. The fly, which was a common green-bottle or carrion fly, was killed on his cheek by a friend who was dining with him. The fly had bitten sufficiently to draw blood, and it was from this point as a focus that the malignant pustule began its career. That it was a malignant pustule, I think the clinical evidence fully bears out. Had material been convenient, I should have availed myself of the opportunity of submitting it to the crucial test, which is by inoculation. Pollender professes to have detected the presence of the *Bacillus anthracis* in the discharges from malignant pustule, but other observers have failed to verify this.

Although malignant pustule is not so very uncommon in France, Germany, and Switzerland, yet I believe that it is rarely met with in the eastern part of the United States, its occurrence being more frequent in the cattle-growing States of the South and West, where it is contracted from cattle suffering from murrain. It is also occasionally contracted by those who work in curled hair, wool, or rags, or handle hides or dead animals. Veterinary surgeons are occasionally infected with it. Several cases are related by Gross, in which the contagion was conveyed by the proboscis of the green carrion fly.

Of the nature of the disease but very little indeed is known. Heusinger believes it to be malarial in origin, operating through certain nervous ganglia of the blood-ves-

sel system, producing stasis, transudation, and extravasation, and forming in the foci of local disturbance some peculiar septic material, which, taken up by the lymph or blood, and acting as a ferment, is thus disseminated throughout the body. Brauell and Sanson believe that the disease is influenced by a geographical distribution, being limited to certain soils. That at any one time sufficient septic material is introduced into the blood to cause death, I do not believe. Primarily I consider it a purely local lesion, but, once introduced into the system, from whatever nidus it may select as favorable to its growth, rapid proliferation of the septic elements goes on, and it is the continued absorption of these that finally overwhelms the patient.

I believe that the proper treatment in cases of septic inoculation or malignant pustule lies in the prompt and thorough excision or cauterization of the point of inoculation, endeavoring by these means to prevent the growth and proliferation of the morbid elements, and thus check the absorption of those materials which would contaminate the whole system.

As for general treatment, stimulation should be carried to its fullest extent, and the best of the stimulants will be found to be alcohol. Quinine should be given in large doses to obtain its antipyretic, as well as its antiseptic, effects. Opium should be administered in quantities sufficient to quiet pain and allay nervousness. The bowels should be kept open by laxatives or mild cathartics. Poulices also seem to give some relief, especially when to them is added some sedative, as tincture of opium.

191 EAST SEVENTY-SIXTH STREET.

Book Notices.

Practical Pathology. A Manual for Students and Practitioners.

By G. SIMS WOODHEAD, M. D., F. R. C. P. E., Demonstrator of Pathology in the University of Edinburgh, etc. With one hundred and thirty-six Colored Plates. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xv+484.

This book presents a very attractive appearance. The paper is good, the printing is excellent, and the colored plates are alluring. But in reality these are non-essentials. The questions which most interest the student, whether advanced or a beginner, are: Does the text give the accepted views in pathology? and Do the plates adequately and correctly illustrate the text? Answered affirmatively, the book at once has special merit; answered negatively, it goes immediately with the horde of honest efforts, but lamentable failures, by which it has been preceded. Probably "alf and 'alf," as the near neighbors of the author would say, will better describe the true status of the work than either an unqualified assent or dissent.

In the first place, as to the text. The general scope of the book is elementary. The matter is presented in a fairly systematic manner, and the text is sufficiently well written, although the views given do not indicate special erudition or research, and in many places fall unnecessarily short of what the modern student in pathology has a right to expect from such a volume.

To illustrate, the author's text leads the reader to the conclusion that locomotor ataxia is primarily a disease of the con-

nective tissue, whereas excellent, if not the best, and probably the majority of authorities maintain that the primary lesion pertains to changes affecting the nerve tubes, which are not mentioned at all, except in connection with secondary changes. The addition of two or three lines would have given the student a much broader view of the subject than has been presented.

The first chapter is devoted to post-mortem examinations, and the writer has evidently followed Virchow closely—none too closely, however, for the text might have been improved by making complete rather than partial quotations. To simply "remove the contents of the pelvis," "cut out the rectum," "remove and note the condition of the vagina," "take out the semilunar ganglia," "remove the liver," etc., will prove to be very meager instruction for the man who undertakes his first autopsy.

Chapter II is entitled "Pathological Histology," but its contents refer merely to the steps necessary to be taken before the student can begin the study of the structure of morbid products.

Instruments, reagents, mounting sections, hardening tissues, section-cutting, section-staining, etc., receive the usual amount of attention, and, for the most part, the directions and descriptions given are plain and practical. Methylated spirit, however, should be banished from the pathological laboratory. Surely such a chapter would be incomplete without reference to Valentin's knife, although there is nothing in the entire armamentarium of the modern histologist or pathologist with which it can be appropriately compared except a dirty stylographic pen, with the chances vastly in favor of the pen.

If to this the manipulation for preparing Farrant's mounting fluid be added, recommended by the author, a combination will be effected which will surpass any exciting cause of profanity ever made known. We believe, also, that the student will be disappointed if he places implicit confidence in all the author says concerning the use of methylaniline, and will find that it is not so easily handled, if good results are obtained, as he would be led to infer from the text.

In Chapter III the author begins the study of the morbid anatomy of the different organs of the body, directing attention first to the liver. The general plan adopted in this chapter extends throughout the book—that is, the histology of the organ is given first, and this is followed by the pathological anatomy.

It is worthy of notice that the author regards cloudy swelling, fatty degeneration, and fatty infiltration as identical in nature, varying only in degree, and yet he describes a degeneration of the nucleus as well as the protoplasm of the cell, which manifests itself microscopically in a mass of granules without any fat droplets.

The author also prefers the name "biliary" cirrhosis to "hypertrophic" cirrhosis, the term in general use.

In the section on acute yellow atrophy of the liver the author speaks of an interstitial inflammation and of the existence of a number of small bile-ducts in the newly formed tissue. This is by no means beyond dispute, and the text would have been less likely to mislead had it been less dogmatic.

Chapter IV contains the histology and the morbid anatomy of the various diseases of the heart. Here it is stated distinctly that cloudy swelling is *not* the earliest stage of fatty degeneration, and the statement is based upon the effect produced by such reagents as ether, chloroform, and osmic acid, which leave the cloudiness unaffected.

The ten succeeding chapters are devoted to the blood-vessels, the kidney, the lung, the spleen, the alimentary canal, bone and joints, the nervous system, tumors, parasites, and vegetable parasites.

Scattered here and there throughout are statements which fall under the general criticism already given. Just here we see

one with reference to Weigert's staining for the central nervous system. It is that the method is of no use, according to Weigert, for peripheral nerves. We have no doubt that Weigert does not entertain this opinion, for one of the most satisfactory differentiations in nerve tissue we have ever seen was a section of the sciatic nerve stained according to the acid-fuchsin method, and we believe that it is recognized as one of the most admirable means of demonstrating the axis-cylinder which have ever been offered.

With regard to the illustrations: Beautiful colors are attractive, but it has always been a question whether or not they add to the intrinsic value of the plate. If such plates are colored just enough, and no more, their value may be increased as illustrations, provided the original drawing has been correctly sketched and the transfer made artistically. To take these steps successfully is a work of art of high order, and, unfortunately, in a large proportion of instances is so poorly done that the practical worker with the microscope is greatly disappointed when he finds himself, after careful manipulation, unable to reproduce the picture given in the book.

In the present instance the work has not reached the degree of excellence which has been exhibited in publications that have from time to time been presented to the profession. There is such a marked difference between the illustrations from Klein and Noble Smith, Thierfelder, Kyber, and others, and those prepared by the author, that it is at once apparent, even on the most superficial examination. Some of the original illustrations are fairly creditable as pictures, although failures as illustrations of morbid anatomy; others are unsatisfactory, both as colored plates and as pathological sketches, while still others are mere daubs.

The general criticism is that the author's illustrations of low magnifying power fail to show what they should, and those of high magnifying power give exaggerated and, not infrequently, incorrect notions. For example, the illustrations of common cirrhosis of the liver are failures; a certain number of red lines and dots are not sufficient, while the student will work for a long time before he will encounter such a beautifully penciled specimen as is illustrated by Fig. 23. The illustrations of cloudy swelling of the liver show nothing of the lesion; all that can be seen is a series of lines and dots. The plate showing the cortex of the kidney in a state of chronic venous congestion is faulty, for the reason that the epithelia of the tubules do not present themselves with such clean-cut dividing lines. If so distinct in the tubules, why should not the bodies of the epithelial cells covering the capillary tuft of the Malpighian body and lining Bowman's capsule have been mapped out quite as distinctly, instead of being given as a few purple dots representing the nuclei?

It is very doubtful if any one can recognize the intention of the author in Fig. 61 without consulting the text. It is a failure as a staining with picro-carmin, and an abortion as an illustration of the second stage of lobar pneumonia. Fig. 60 ($\times 50$) does not show what it should, even with this magnifying power. Fig. 54 is an illustration of staining with picro-carmin, but it has not until now been our privilege to see the red-blood corpuscles colored distinctly green. The only near approach which the author's illustrations have to those by Kyber, Thierfelder, and others, is in Fig. 79; but this is none other than a failure as an illustration of the morbid anatomy of the spleen in leucocythemia. Fig. 123 (scirrhus cancer of the breast) is unworthy of a student who has worked industriously for six months in a pathological laboratory. Fig. 119 (adenoid cancer) is exceedingly coarse as a work of art, and as an illustration of disease it is nearly worthless.

The reviewer is aware that these are unpleasant criticisms, but he believes they are fully justified on close inspection from

a scientific standpoint. The author has evidently failed to grasp the details essential to the making of good colored plates.

While there is a good deal in this book that will prove acceptable to students, there is very much that will prove unsatisfactory to the practical worker with the microscope and the advanced student in pathology.

Correspondence.

LETTER FROM PHILADELPHIA.

The Medical Colleges.—The County Society and the Question of the Admission of Women.—The Medical Jurisprudence Society.—The Hospitals.

PHILADELPHIA, April 7, 1884.

On the first of May the medical department of the University of Pennsylvania will graduate a class of about a hundred, four of whom have taken the four years' course. The freshman class numbered one hundred and forty, which is the largest class since the school was reorganized. Professor Alfred Stillé has resigned the chair of the practice of medicine, and it is thought that in all probability his successor will be Dr. William Pepper, the present professor of clinical medicine and Provost of the university. At the recent commencement of the Jefferson Medical College the degree of doctor of laws was conferred on Professor J. M. DaCosta, of Philadelphia, and Professor Benjamin Silliman, of New Haven, and the degree of doctor of divinity on the Rev. J. F. Dripps. I understand that the Medico-Chirurgical College, which has lost several members of its faculty by death, is about to come under different management, and that it will be made in every respect a superior institution. It is believed that there is room for a third medical school in this city, and the professional standing and character of the men who are understood to be concerned in the reorganization of the Medico-Chirurgical may be inferred from the fact that nearly all of them are connected with the Polyclinic. Whether the two institutions will be merged into one, or not, is a question which can not now be answered. At the Woman's Medical College Dr. William W. Keen has recently been elected professor of surgery.

The Philadelphia County Medical Society has again rejected a woman candidate for membership, but at the same meeting, that of April 2d, an amendment intended to settle the question by making women ineligible for membership failed to get the requisite two-thirds vote for adoption.

The Medical Jurisprudence Society promises to be popular with both the professions concerned, each of which is represented by able and prominent men. At this week's meeting, with Professor Gross in the chair, a paper will be read on "Trial by Jury," and Professor J. Reese will read a paper on "Medical Experts." This will be the second monthly meeting of the society.

Dr. D. Hayes Agnew has resigned from the medical staff of the Pennsylvania Hospital, on account of the growth of his other engagements. The old lying-in wards of the Philadelphia Hospital having become so pestiferous as to forbid their further use, an appropriation of \$8,000 has just been made by the City Council, to build two new maternity wards.

THE GARFIELD MEMORIAL HOSPITAL.—It is reported by the Washington correspondent of one of the Boston newspapers that a struggle has arisen between two sections of the board of lady managers, one section being clamorous in favor of allowing the practice of homoeopathy in at least one wing of the hospital.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, APRIL 12, 1884.

THE ADJOURNED MEETING OF THE COUNTY SOCIETY.

THE meeting held last Monday evening, for the specified purpose of listening to the report of the Committee on the "Collective Investigation of Disease," seems to have devoted its chief attention to a matter altogether foreign to the special order for the evening, namely, the consideration of the attitude which the society ought to take on the measure of legislation looking to the regulation of practice by midwives. The reading of the committee's report was even cut short—its conclusion and the discussion thereon being postponed—in order that the meeting might proceed to the consideration of the matter of midwifery practice. We can only infer, either that but a lukewarm interest was felt in the committee's report, or that the midwifery bill was looked upon as claiming the society's immediate attention. Of these two inferences, we prefer to think that the latter is the correct one.

As the matter stands now, we can not allow that the society's "collective investigation" of the subject of intestinal obstruction has been so conducted as to heighten the value that should be attached to inquiries of the sort. As we feared would be the case, the report was chiefly a recital of clinical histories, preceded by a meager statistical summary, the great therapeutic questions involved being scarcely touched upon except by the individual contributors. On account of the reading of the report not having been finished, it is impossible to say how many of the latter there were whose work was lost to the meeting, or to judge of the character of the contributions thus buried. This we may say, however—and it is pleasant to be able to point to a redeeming feature—that the cases contributed by Dr. Burchard and Dr. Atherton are interesting and instructive, and that the remarks added by those gentlemen to their reports were of a nature to shed considerable light on the subject under investigation. If the society is to make any further efforts in the way of "collective investigation," we trust that the committee will lay aside its modesty, and really give shape to the material it may have to work with. We can not suppose that in this instance no effort was made to secure the co-operation of the two or three surgeons in the city who would have been able to bring a well-digested personal experience to bear, but we would suggest that in the future, in case those most qualified to take part can not be induced to do so, the proposed investigation be dropped.

Turning our attention now to the threatened incorporation of a college of midwifery, with the attendant legal recognition of midwives as practitioners, it is to be hoped that the committee appointed to proceed to Albany will succeed in strangling the bill now pending. In the light of Dr. Piffard's statement

at the meeting, the Committee on Legislation of the Medical Society of the State of New York must be absolved from the suspicion of negligence that was suggested in our last issue. An extension of that committee's field of action and an increase of the funds at its disposal may commend themselves to the next meeting of the State society, in view of the strait to which the profession has been brought in this matter by the lack, apparently, of any adequate provision for meeting such schemes of legislation promptly. Whatever may be the fate of the particular bill with which the deputation to Albany has to deal, the broad question is likely to remain, as to what legislation, if any, is advisable in the matter of recognizing and regulating the practice of midwives. Cogent as Dr. Garrigue's argument was against tolerating those functionaries under any circumstances, the midwives are with us, and how they should be dealt with will yet have to be decided.

THE NIAGARA UNIVERSITY AND ITS MEDICAL DEGREE.

THE medical department of Niagara University, of Buffalo, is meeting with trouble very early in its existence. Before it has completed the first year of its work, the legality of its degree is questioned by the board of censors of the Medical Society of the County of Erie. This in itself would amount to at least a temporary misfortune for the school, but, when it is added that an elaborate opinion has been published in the newspapers, setting forth the reasons which have led the attorneys of the society to the conclusion that the university can not legally grant the degree of doctor in medicine, it will be seen that additional embarrassment is thrown upon the institution for the time being, for the public is apt to be prejudiced at the outset in favor of the opinion first in the field. In the interest of justice, therefore, we think it is to be regretted that the legal opinion in question has been laid before the community while yet, so far as we are aware, the matter has not come before the courts. Especially is this fact to be regretted when the publication is made under such head-lines as we find in one of the Buffalo papers: "Niagara University. The Erie County Medical Society gets after an Institution which Professes to Make Doctors—A Legal Opinion. Illegal Medical Degrees."

It is unquestionably proper for the society to interest itself in regard to the legality of the degrees granted by any institution within the county, and, in case of doubt, to test the matter in any legitimate way, but we can not suppose that the society has been the mover in the publicity given to the inquiry, especially as the opinion given by its attorneys is qualified by a doubt as to the construction that should be put upon an act of the Legislature that has a material bearing on the question. It seems that it has been the custom of the Legislature, when chartering colleges, to invest them with the same privileges and powers in regard to degrees as those enjoyed by Columbia College, instead of defining those privileges and powers specifically in the individual cases. In the case of the Niagara University, according to the attorneys, the question turns upon whether its charter, as recently amended, invests it with the same degree-granting powers as those now held by Columbia College, or

only with those that Columbia enjoyed under its original charter, before the supplementary act of 1810 was passed, defining the powers of the college more specifically. Besides, it does not appear certain that the original charter of Columbia College did not carry with it the right to confer the degree of doctor in medicine, although the attorneys think it did not.

Pending a judicial exposition of the powers of the colleges in the State, and of the bearing of the various acts of the Legislature on the status of Niagara University, it can scarcely be said to have been shown logically that the university has exceeded its prerogative in conferring the degree in medicine. It is doubtful, we think, if this particular case ever comes before the courts, for a readier way of settling the point at issue, and one that will in all probability be resorted to by the university, is to ask the Legislature now in session to pass a supplementary act defining its powers.

ELOCUTION IN MEDICAL LECTURES.

COMMENTING ON M. Remy's first lecture in the course in physiology given by him as M. Bédard's substitute, the "*Progress médical*" takes occasion to make some particularly wholesome reflections on the methods of scientific teaching in vogue in Paris, especially in the demonstrative courses. We are surprised to learn from our contemporary's article that M. Remy's lecture-room is defective in some of the appliances needed for efficient demonstration, including even such commonplace matters as facilities for illustration. But it seems that it is not alone in respect to these material features that the French scientific courses are in need of improvement, for the journal in question takes pleasure in contrasting M. Remy's clear and precise statements with what it terms the turgid periods void of sense still so frequently brought into play by the lecturers of Paris, adding that the students of the present day are not much taken with rhetoricians, but, without being wholly indifferent to the form in which instruction is given them, prefer to have the greatest number of facts stated in as few words as possible.

It seems to us that the Paris journal's criticism strikes to the kernel of one thing that lies at the door of scientific teaching, not only in France, but elsewhere, as a prime obstructive. Not that eloquence is always and necessarily out of place in scientific courses, for in some of its phases the study of natural phenomena leads the mind to a state in which the words that clothe an idea, or even a statement of fact, together with the glance, the mien, the gesture with which it is emphasized, play a leading part. Moreover, what is termed the personal magnetism of a lecturer is not to be set down as merely meretricious; it enters into and vivifies the impression made, as the "atmosphere" of a painting lifts it above the level of a photograph. But eloquence is only in place, and therefore only effective, when it flows in obedience to the natural demands of the theme, and such demands are not common in scientific expositions. Clearness is the one element that, above all else, should characterize a lecturer's talk when he has to deal with technical matters, and the main features of clearness are simplicity and precision.

MINOR PARAGRAPHS.

THE "ASCLEPIAD."

This is the title of a new serial publication, termed "A Book of Original Research and Observation in the Science, Art, and Literature of Medicine, Preventive and Curative." It is to be issued quarterly, and, judging from the first number, each part is to contain ninety-six pages. Dr. Benjamin Ward Richardson, of London, is the author—not the editor, for the entire contents are of his own writing. The first number shows a variety of contents such as was to be expected from an author of Dr. Richardson's versatility, and all the articles, eight in number, are very readable. The matter of an author's issuing a serial made up wholly of his own articles is not altogether new, and such a venture is quite likely to prove welcome, especially when the writing comes from a man so well known and so highly thought of as Dr. Richardson. We look forward with pleasure to subsequent issues of the "Asclepiad."

THE "QUARTERLY EPITOME OF AMERICAN PRACTICAL MEDICINE AND SURGERY."

This well-known periodical, "collateral to 'Braithwaite's Retrospect,'" enters with its March number upon its fifth volume under the guidance of a new editor—new to the journal in question, but a veteran in the work of medical editing—Dr. Wesley M. Carpenter. To those who know Dr. Carpenter, and he reckons among his acquaintances and, we may truly add, his friends nearly all those members of the profession who during the past ten or fifteen years have attended the meetings of our local societies or those of the national societies—to all these we need not say that he possesses to a rare degree the faculty of conducting a journal of this character in such a manner as to give his readers (what the "Epitome" has always aimed to give) "the cream of medical literature." To the few who do not know Dr. Carpenter we have only to say that, if they will read the "Epitome," they will not be slow to discover that he knows the difference between an abstract and a clipping, and, furthermore, that he has the art of making unusually satisfactory abstracts. Add to this a wide knowledge of medicine and an exceptional conscientiousness, and we have the picture, both of Dr. Carpenter and of what the editor of such a journal should be.

THE PHILADELPHIA MEDICAL DIRECTORY.

We have received a copy of the "Medical Directory of Philadelphia," for 1884, and we find it a distinct improvement on the issues for previous years. The lists of names include those of homeopathic physicians, registered practitioners without a diploma, veterinarians, dentists, and apothecaries. The usual information is given in regard to the charitable institutions, but the data concerning the medical societies are exceedingly meager. The arrangement of the matter is such as to facilitate hasty reference. The volume is edited by Dr. Samuel B. Hoppin, and published by the Messrs. Blakiston.

THE NEW YORK DISPENSARY.

It is evident from the ninety-fourth annual report of the board of trustees of this institution, for the year 1884, that the good work which it has done for a long term of years is not declining. Indeed, certain indications are to be noted that it is more alive than ever to the advance of the work of charity. Among these, we may mention the comparatively new feature of the providing of trained nurses to accompany the district

physicians in their rounds, a plan which, we understand, has been adopted by one of the other dispensaries also, the Demilt.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 8, 1884:

DISEASES.	Week ending April 1.		Week ending April 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	8	5	4	1
Typhoid Fever	5	3	6	0
Scarlet Fever	96	12	89	13
Cerebro-spinal meningitis	6	5	6	6
Measles	68	9	63	13
Diphtheria	42	16	47	18
Small-pox	0	0	1	0

THE PROPOSED MARINE HOSPITAL FOR NEW YORK.—The purchase of the Seaman's Retreat property, on Staten Island, has been reported upon favorably in the House of Representatives.

THE NEW YORK STATE BOARD OF HEALTH.—Mr. Erastus Brooks, of Richmond County, Dr. J. E. Delavan, of Albany County, and Mr. George W. Cooke, of Ulster County, have been appointed members of the board.

"RYE AND ROCK" CONFECTIONERY, as was confessed by the makers on the occasion of a hearing before Health Commissioner Raymond, of Brooklyn, recently, is flavored with an extract, and mention was made of fusel oil being used in the manufacture. A more gratifying admission was to the effect that the recent talk about the unwholesomeness of the product had led to a falling off in its sale.

THE LAY NURSES OF THE PARIS HOSPITALS do not seem to have given the satisfaction that was expected of them at the time they were substituted for the Sisters of Charity, judging from a report to the effect that a well-known surgeon of *la Charité* has written a letter denouncing the exclusion of the latter.

OLEOMARGARINE.—The bill prohibiting the manufacture and sale of this factitious butter within the limits of the State of New York has passed the Senate, with an amendment reducing the penalty to between \$100 and \$500.

CHARITABLE BEQUESTS.—By the will of the late Mrs. Oswald Ottendorfer, the German Hospital and the German Dispensary are each to receive \$10,000, and the German Hospital of Newark, N. J., \$5,000.

SANITARY APPOINTMENTS IN BOSTON.—The Boston board of health has appointed Mr. George W. Forrestall superintendent of health, Dr. John H. McCullum city physician, and Dr. Arthur C. Griffin port physician.

THE ADULTERATION OF DRUGS IN MASSACHUSETTS.—A remonstrance has been laid before the Massachusetts Legislature against any change in the present law relating to the adulteration of drugs. It is signed by Dr. Alfred Hosmer, the president of the Massachusetts Medical Society, Dr. George C. Shattuck, Dr. George H. Lyman, Dr. Benjamin E. Coting, and Dr. Henry W. Williams. The document urges that the United States Pharmacopœia should be the only standard of the strength and purity of drugs.

SMALL-POX IN PENNSYLVANIA.—A report from Easton last week represented that a number of immigrants from Hungary, by way of New York, had been taken from a railway train and

placed in the Lehigh County Almshouse, having been found to be suffering with small-pox.

THE NEW YORK ACADEMY OF MEDICINE.—At the next meeting of the Academy, Thursday evening, April 17th, Dr. Robert Abbe will read a paper entitled *A Study of "Dupuytren's Contraction of the Hand."*

THE INSPECTION OF MEAT IN NEW YORK is in a fair way to be made much more thorough than it has been heretofore, bills having been introduced into both houses of the Legislature providing for the appointment of five inspectors of meat by the board of health, and making it a punishable offense to offer for sale any meat that has not been inspected by them, the inspection to be repeated every second day until the meat is sold.

THE ISOLATION OF CONSUMPTIVE SOLDIERS, according to the "Progrès médical," has been decreed in the military department of Prussia.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 30, 1884, to April 5, 1884:*

WOODHULL, ALFRED A., Major and Surgeon. Granted leave of absence for twenty-two days, to take effect about April 6, 1884. Par. 13, S. O. 72, A. G. O., March 28, 1884.

WHITE, ROBERT H., Captain and Assistant Surgeon. To be relieved from duty at U. S. Military Academy, West Point, N. Y., August 28, 1884. Par. 7, S. O. 74, A. G. O., March 31, 1884.

MEARNS, EDGAR A., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Verde, A. T. Par. 1, S. O. 22, Headquarters Department of Arizona, March 19, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending April 5, 1884:*

WALES, P. S., Medical Director. Granted one year's leave of absence from March 28th, with permission to leave the United States.

BATES, N. L., Medical Inspector. Ordered to Washington to attend sick officers.

BRADLEY, M., Medical Inspector. Ordered to continue duty at League Island Navy Yard.

WHITAKER, H. W., Assistant Surgeon. Ordered to Naval Rendezvous at Philadelphia, Pa.

GUNNELL, F. M., Surgeon-General. Appointed Chief of Bureau of Medicine and Surgery, and Surgeon-General of the Navy, with the relative rank of Commodore, from March 27, 1884.

RUSH, C. W., Passed Assistant Surgeon. Ordered to Naval Academy.

MCMURTRIE, D., Surgeon. Detached from Naval Rendezvous, Philadelphia, and to await orders for duty at Navy Yard, Washington, D. C.

NELSON, H. C., Medical Inspector. Ordered before Retiring Board.

GORGAS, A. C., Medical Inspector. To be Medical Director from the 4th of March on the Active List.

MARINE-HOSPITAL SERVICE.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—January 1, 1884, to March 31, 1884:*

ESSENDEN, C. S. D., Surgeon. To proceed to Cairo, Ill., and Memphis, Tenn., as Inspector, March 5, 1884.

PURVIANCE, GEORGE, Surgeon. Granted leave of absence for thirty days, February 16, 1884.

SMITH, HENRY, Surgeon. To rejoin his station at Norfolk, Va., March 7, 1884.

IRWIN, FAIRFAX, Passed Assistant Surgeon. Relieved from

duty at Norfolk, Va.; to assume charge of Cape Charles Quarantine Station, March 7, 1884.

CARMICHAEL, D. A., Assistant Surgeon. To report to Surgeon Purviance for examination for promotion, March 5, 1884.

ARMSTRONG, S. T., Assistant Surgeon. To report to Surgeon Fessenden for examination for promotion, March 5, 1884.

BENNETT, P. H., Assistant Surgeon. Leave of absence extended ten days, January 18, 1884.

AMES, R. P. M., Assistant Surgeon. Detailed for temporary duty on relief-boat, Ohio River Flood Sufferers, February 16th, and March 1, 1884.

DEVAN, S. C., Assistant Surgeon. Upon expiration of leave of absence, to proceed to St. Louis, Mo., for temporary duty, February 6, 1884.

KALLOCH, P. C., Assistant Surgeon. To proceed to Charleston, S. C., for temporary duty, February 1, 1884.

BEVAN, A. D., Assistant Surgeon. Granted leave of absence for seven days, March 13, 1884.

WASDIN, EUGENE, Assistant Surgeon. Granted leave of absence for fifteen days, March 4, 1884.

BATTLE, K. P., Assistant Surgeon. To proceed to New York, N. Y., for temporary duty, February 4, 1884.

Resignation.

COOKE, H. B., Passed Assistant Surgeon. Resignation accepted by the Secretary of the Treasury, to take effect February 5, 1884. January 31, 1884.

Appointment.

BATTLE, KEMP P., M.D., of North Carolina, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, February 2, 1884.

Promotions.

CARMICHAEL, D. A., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from March 1, 1884. March 18, 1884.

ARMSTRONG, S. T., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from April 1, 1884. March 28, 1884.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, April 14th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private).

Tuesday, April 15th: New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburgh, N. Y., Medical Association; Medical Society of the County of Passaic, N. J.

Wednesday, April 16th: New Jersey Academy of Medicine (Newark); Medical Society of the County of Windham, Conn.

Thursday, April 17th: New York Academy of Medicine; Medical Societies of the Counties of Hartford and Tolland, Conn.

Saturday, April 19th: Roman Medical Society (private).

OBITUARY NOTES.

PROFESSOR ALLEN THOMSON, OF EDINBURGH.—We regret to learn, from the "Medical Times," of London, that Allen Thomson, M.D., LL.D., F.R.S. Lond. and Edin., died recently, in the seventy-fifth year of his age. Professor Thomson was a most successful teacher of anatomy and the author of several exceedingly important papers on embryological subjects, being perhaps best known in this country by his chapter on Embryology in Quain's "Anatomy."

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 3, 1884.

H. T. HANKS, M. D., Vice-President, in the chair.

THE REMOVAL OF THE PLACENTA.—Dr. H. J. GARRIGUES read a paper on this subject. He did not propose to consider abortion cases. The method which he practiced was that of Credé, described as long ago as thirty years. It was eight years since he had adopted it; when he became connected with the Maternity Hospital it was introduced into his service there, and had given entire satisfaction. In one year four hundred and eight women were delivered; two of them aborted in the fifth and sixth months, respectively, and the placenta was removed piecemeal by means of the dull wire curette and the forceps. Among the remaining four hundred and six there were six cases of retained placenta, and in six the membranes had to be removed after separation of the placenta. Therefore, out of over four hundred cases in which Credé's method had been practiced, in only six had it failed. In four there existed abnormally intimate connections between the placenta and the uterus, and it might be taken for granted that in those cases any amount of pulling on the cord would not have brought the afterbirth away. In six cases, or one and one half per cent., more or less of the membranes were retained; in one of these the whole hand was introduced into the uterus in order to remove them; in the five others the index and middle fingers were employed for this purpose, and no trouble was observed in consequence. Credé had not observed any bad result arise from leaving the membranes in the uterus, and would not advise their removal, as the introduction of the hand might cause infection. Dr. Garrigues had seen very serious post-partum hæmorrhage occur in such cases, and instructed his assistants to remove any part of the afterbirth, whether placental or membranous, which was left in the uterus. Antiseptic precautions being used, the danger from removal of such parts was comparatively small. He formerly used solutions of carbolic acid, a five-per-cent. solution for the hands and a two-per-cent. solution to be thrown into the uterus. Since October, 1883, he had employed a solution of bichloride of mercury, 1 to 2,000.

Credé's method helped nature by her own means; it only increased the strength of the normal contraction of the uterus by which the placenta was expelled. When the third stage of labor was left to nature's own efforts, in some cases expulsion followed immediately upon the birth of the child; in the majority more or less time intervened after the birth of the child before the placenta was thrown off; more or less blood collected in the membranes, and was afterward pushed out in the form of a clot and fluid blood, and in some the placenta did not come off at all. Help was therefore called for. Dr. Garrigues divided the muscles of the uterus into two groups, the proper and the common. The first approximated the walls of the organ; by the second it was drawn backward into the pelvic cavity, and at the same time it was tilted in such a manner by the co-operation of the round and utero-sacral ligaments that the fundus moved forward and the cervix backward, while all the lower bundles probably contributed to the expansion of the os. All these movements were closely imitated by Credé's method. By shortening the third stage of labor, and by increasing the muscular contraction, Credé's method counteracted the tendency to hæmorrhage both immediately, during the third stage, and after labor. During the period at the Maternity Hospital mentioned they had only had two cases of post-partum hæmorrhage, besides

two in which there was a moderate amount of blood lost. In both the cases of post-partum hæmorrhage the bleeding began immediately after the birth of the child, before Credé's method could be practiced. Both patients were exhausted and the latter had blood extravasation all over the body, the case being one of purpura hæmorrhagica. In no case had post-partum hæmorrhage occurred after the expression of the placenta. When properly executed, Credé's method for the expulsion of the placenta was the best for the prevention of post-partum hæmorrhage. Inversion of the womb was prevented, but it could not be too often repeated that the uterus was seized from all sides over the largest possible space, and downward pressure on the fundus should never be practiced except when the womb was contracted. In some cases the whole afterbirth was expelled by this method outside the genitals, and, when not, the membranes could be withdrawn from the vagina without introducing the finger into the canal. In this way the method became a part of the preventive antiseptic treatment. He placed the patient on the left side during delivery, but after the birth of the child she was turned on the back, which was the more convenient position in which to practice Credé's method, or, in case it should prove necessary to do so, to compress the aorta or make intraterrine injections.

Credé's originality in introducing this method had been questioned, but Dr. Garrigues had not been able to find that it had been previously described and practiced in all its details by any author.

The distinguishing features of Credé's method were:

1. That it was to be used in all cases.
2. That the uterus was to be grasped from all sides with both hands.
3. That the placenta was to be squeezed out by the outside pressure during a uterine contraction.
4. That the cord and placenta never were touched except in those rare cases in which the placenta was really adherent, and had to be peeled off from the uterine wall.
5. That the fingers were not introduced into the genital canal after delivery, at which time the danger of infection was much greater than before the passage of the child.

The advantages of this method were:

1. The certainty with which the end was accomplished.
2. The exact imitation of the natural processes.
3. The prevention of hæmorrhage.
4. The prevention of hour-glass contraction.
5. The prevention of inversion.
6. The prevention of avulsion of the cord or of the uterus itself.
7. The prevention of infection.

Dr. Garrigues thought it unnecessary to say anything about the old method of pulling on the cord, as it was attended by corresponding disadvantages. As to the let-alone method, by which no interference with the processes of nature whatever was made, not even removing the placenta when it lay loose in the vagina, a method practiced by some obstetricians in Germany, he thought there was nothing to be said in its favor. Of one hundred cases treated in this manner, it was recorded that in twenty-four the placenta came away within half an hour; in twenty in the second half-hour; in twenty-five in the second hour; in eleven in the third hour; in nine in the fourth; in five in the fifth; in three in the sixth; in two in the eighth, and in one in the twelfth hour. Behind the placenta blood-clot formed, in one case there was a decided foetid odor present, and in two hour-glass contraction took place. This method was not that of nature, as was alleged. The placenta was artificially prevented from coming out by keeping the patient lying on her back. It was presumable that in the natural state the woman

would, shortly after the birth of her child, get up and move about, and thus an opportunity would be given for the discharge of the placenta from the genital canal within a short time after the second stage of labor. Total expectancy, in his opinion, had many disadvantages and hardly any redeeming qualities. All savage tribes used massage and expression, and even the elephant, whose labor had been observed by Dr. Sussdorf, pressed its womb against a post in the ground.

Dr. A. S. HUNTER fully indorsed the conclusions given in the paper. He did not know that he could add anything to increase the appreciation of Credé's method, but he would suggest that it be begun just before the expulsion of the child. It had been his experience since he had adopted this course that the uterus had followed up its contraction firmly upon the placenta, and that the period between the expulsion of the child and that of the placenta had been very short. The amount of hæmorrhage which usually followed manual aid in the removal of the fœtus was, in his opinion, by this means much diminished.

Dr. A. HADDEN said that during twenty-five years of considerable obstetrical practice he had never lost sight of the importance of proper attention to the third stage of labor, and the results of his experience he thought abundantly proved the wisdom of that course. Out of the last thousand cases which he had attended, the statistics of which he had examined during the past few days, he found only one case of death from hæmorrhage. In that case there was purpura hæmorrhagica, and the patient died a few hours after the rupture of a very large varicose vein. In one case death occurred from paralysis of the diseased heart after a difficult labor; in one from rupture of the uterus; in one from an abscess a few weeks after childbirth. The practice which he had adopted for the removal of the placenta consisted partly in pressure upon the fundus of the uterus, or Credé's method, and partly in traction upon the cord. He always took pains to have the uterus firmly contracted and present a globular form, and he watched the patient an hour and a half after the expulsion of the placenta. He was a little skeptical about slight traction favoring inversion of the uterus. He had always practiced it, and had never known it to produce any such effect. He had had but one case in which partial inversion took place, and in that instance it had begun, as indicated by a hollow in the fundus, before anything was done toward removing the placenta. The attachment had been at the fundus, and not, as was usual, on the sides.

Dr. M. PUTNAM JACOBI thought there was no question but that Credé's method was the best for the removal of the placenta. She would only refer to two theoretical questions which had been suggested to her mind by the paper. As the completion of pregnancy approached, nature began to prepare for the throwing off of the uterine contents. This, she thought, was done by supplying increased arterial for venous circulation, for it was arterial blood which favored muscular contraction. The veins began to become closed by the formation of thrombi and the coagulation of blood within them. Credé's method tended to diminish the size of the uterine cavity and thereby to diminish the size of the veins and cause their obstruction by thrombi. The other theoretical suggestion was, that the construction of the placenta in the human female rendered her more liable to danger than the lower animals, and this fact might be one of nature's provisions against an over-increase of the population.

Dr. P. F. MUNDÉ had found Credé's method a very excellent one, and free from danger when carried out aright, but, when carried to too great an extent, or applied in a manner which the originator had not intended, it might cause too rapid expulsion of the placenta and favor inertia. He had found the best method to consist in making gentle compression with the hand

on the fundus of the uterus, beginning with the expulsion of the child's head, and continuing it until the uterus, which at first reached perhaps as high as the umbilicus, extended up no more than half that distance, and assumed a globular form, indicating that the placenta had become detached. In some instances it would be found that the placenta lay in the cervical canal after its detachment, in which case he would not hesitate to insert the whole hand, properly disinfected, and remove it. Care should be taken at the same time not to tear off the membranes. The placenta could not be expressed until it was detached, but the uterus could be made to contract by manipulations and detach the placenta, after which it could be expressed. He had met with the condition called encystment, in which the detached placenta was retained by the contracted cervix. He believed we should always remove retained membranes. He did not think harm would come from gentle traction upon the cord. He did not believe at all in the let-alone method.

Dr. J. H. FRUITHIGHT said, with regard to the let-alone policy, that the placenta should be looked upon as a foreign body, and he could not understand how any reasonable obstetrician could leave it in the genital canal longer than was absolutely necessary. He had not often used traction, but in one case, in which he made what he thought was gentle traction, the placenta separated in the central portion while the circumference was still attached, and it resulted in very troublesome concealed hemorrhage. He thought, as Dr. Mundé had suggested, that there might be some cases in which Credé's method would not be applicable, but the physician would be able to judge of such cases when he encountered them.

Dr. ISAAC E. TAYLOR looked upon everything connected with childbirth as physiological, and not as pathological, and he did not think that we ought to interfere with a normal physiological process. He did not believe he had introduced his hand into the uterus to extract the placenta more than six times during his entire practice. The uterus did not always look directly down into the pelvic cavity; its direction varied according to the attachment of the placenta. By making gentle traction upon the cord it could be determined whether it was attached to the posterior surface, to the fundus, or to the orifice. The physiological method of removing the placenta would be imitated by making gentle traction upon the cord, which would excite the fundus to contract upon the placenta and cause its expulsion. We should not use forced expression, supposing that the placenta ought to be expelled within five or ten minutes after the birth of the child. Nature's method was to wait twenty minutes, or even an hour. She was fatigued, and needed rest, and we should not compel her at once after delivery to renew her efforts to expel the placenta. He thought the placenta might be attached at such a portion of the uterine wall, for instance, at the opening of the Fallopian tube, that Credé's method would prove of no effect.

Dr. RAMSDELL said he was once called to see a patient whose physician had waited forty-eight hours, and the placenta was found to be retained on account of hour-glass contraction of the uterus. Septicæmia followed, and she died. He had practiced gentle traction with friction over the region of attachment of the placenta. Out of over seven hundred cases of confinement, he had but one death to record, and in that instance the nurse, contrary to his rules, gave vaginal injections for several days before he learned of the fact. In two or three cases he had been obliged to introduce the hand and tear off the placenta. As it was torn away it caused a sound like that of stripping the kidney of the hog from its fatty envelope. The placenta usually came away within twenty minutes; he did not believe it had ever been detained more than thirty minutes.

Dr. SELL had not practiced any method specially; formerly

he had waited from half to three quarters of an hour, according to the teaching of Dr. Taylor. In later years fifteen to twenty minutes embraced about the whole of the time from the birth of the child to the birth of the placenta. The method which he had practiced usually was about that recommended by Denman, before the introduction of Credé's method. But he did not think we need be governed by any absolute standard. It could not be too strongly impressed upon the young physician that he should not be in too great a hurry.

Dr. GARRIGUES, in closing the discussion, said he thought we should all agree that the physiological process should be imitated as far as possible, but there might be a difference of opinion as to what the physiological process was. To leave the placenta in the genital canal for some hours was certainly not natural. To make traction upon the cord he believed not to be a natural process, and he favored letting the cord alone; it would come away by gentle pressure. As to the case mentioned by Dr. Taylor, of attachment of the placenta around the Fallopian tube, it was probably a case of tubal pregnancy, in which the ovum afterward descended into the uterine cavity. Such cases were very rare, and could not have much bearing upon rules for so common a process as the removal of the placenta. He would not feel justified in introducing the hand into the womb to extract the afterbirth before the lapse of an hour and a half. On the other hand, he did not believe it was right to leave the placenta until it became decomposed.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Meeting of April 7, 1884.

ALFRED C. POST, M. D., LL. D., Chairman *pro tem*.

REPORT ON INTESTINAL OBSTRUCTION, BY THE COMMITTEE ON THE COLLECTIVE INVESTIGATION OF DISEASE.—Dr. DAVID WEBSTER, the chairman of the committee, read a summary of the replies to the circular which had been distributed, and then read the histories of a number of the more interesting cases. Reports, more or less complete, of fifty-one cases had been sent in. In forty-seven there was total obstruction of the bowels, while in four it was incomplete. In twenty-four there was no stercoraceous vomiting. In one case there was no vomiting at all; only nausea. In two cases in which the vomited matter was not stercoraceous it had a gangrenous smell. In three there was not obstinate constipation. Twenty-one patients out of the fifty-one recovered. Out of nine cases in which the abdomen was opened, and constricting bands were found and divided, there were two recoveries, and there probably would have been a third but for imprudence on the part of the patient and his friends. The age of the patient was reported in thirty-one cases. Seven were five years of age or under; one was between five and ten; one between ten and twenty; eight were between twenty and thirty; five between thirty and forty; two between forty and fifty; six between fifty and sixty; and one was seventy-five years of age. Of those whose sex was reported, twenty-two were males and eight females. In sixteen cases the obstruction was demonstrated by operation or by autopsy. There were peritoneal adhesions in eleven cases; twists of the gut in two cases; stricture in one; invagination in one; and impacted feces in one.

Dr. T. H. BURCHARD had reported nine cases, seven of which were verified either by an autopsy or by an operation. They were all seen also by other physicians.

CASE I.—A bar-tender, aged twenty-nine, was taken with severe abdominal pain and distension, with obstinate constipation, followed by stercoraceous vomiting and great prostration. Death took place from collapse on the fourth day. At the autopsy there were signs of perito-

nit, with old peritoneal adhesions, stricture at the splenic flexure and upper half of the descending colon. The transverse colon was dilated.

CASE II.—A man, over sixty years of age, whose wife said he had always had a weak stomach and would swell up if he ate heavily, was accustomed to put his hand over the left side of his abdomen and say that all his trouble was there. The fatal attack began with pain over the umbilical and right hypochondriac regions. There was distension of the colon, with hiccough, vomiting, constipation, prostration, and a rapid pulse. There was stercoraceous vomiting. On the third day a single peritoneal band, two inches wide, binding down the descending colon and a small loop of the small intestine, was divided. Death from collapse took place eight hours afterward. There was no autopsy.

CASE III.—A woman, aged forty-two, had had peritonitis several years before. Her bowels were always constipated, and she was subject to distension from gas and violent attacks of flatulent colic. The attack began with great distension and distress, and attempts to relieve the distension were unavailing. There was vomiting, but not of stercoraceous matter. Death occurred within twenty hours, from heart-failure. At the autopsy some turbid fluid was found in the peritoneal cavity, also a few drops of pus on free surface of peritoneum, old peritoneal adhesions, and a cicatricial band binding down the duodenum about five inches below the head of the pancreas.

CASE IV.—A man, aged fifty-four, who had been in excellent health, whose bowels moved regularly every day, and who had had no previous history of intestinal or peritoneal trouble, was attacked, after four days of constipation, with pain in the shoulders and back. Vomiting, great distension, and symptoms of collapse set in, and there were persistent hiccough and vomiting four hours before death, but no stercoraceous vomiting. Aspiration of the bowel *per rectum* was attempted. Death took place from collapse twenty-nine hours after the severe symptoms set in. At the autopsy there were found commencing peritonitis and two old peritoneal adhesions, one seven inches long at the splenic flexure, and one five inches long at the hepatic flexure. The transverse colon was enormously distended with liquid feces which could not pass through the splenic stricture.

CASE V.—A patient, aged nineteen, who gave no previous history of peritonitis, but had been told by a physician always to keep the bowels free, was attacked with severe pain in the left hypochondriac region and slight constipation, and passed several days of abdominal distress and distension. Rapid aggravation of symptoms took place, with stercoraceous vomiting, and intestinal obstruction of an obscure nature was diagnosed. The abdomen was opened, and an adhesion was found binding down a portion of the jejunum to the transverse colon. The bowel was greatly congested. The stricture was divided with scissors, with strict antiseptic precautions, and the wound healed by first intention. The patient was ultimately cured.

CASE VI.—A man, fifty-five years old, whose previous health was fair, although he was dyspeptic and constipated, never had had peritonitis or any serious illness, but had been failing in health for about a year, his bowels becoming more and more constipated. He was taken suddenly with intense pain referred to the right hypochondriac region, and very marked distension of the ascending colon. There was a rapid development of acute general peritonitis, with collapse, but no stercoraceous vomiting. A diagnosis was made of peritonitis, probably with peritoneal adhesions binding down the colon at the hepatic flexure. No operation was done, on account of the collapse, and death took place on the fifth day. At the autopsy there were found signs of acute general peritonitis, with adhesions binding down the colon to the gall-bladder and liver; also a small cancerous nodule just beneath the adhesion.

CASE VII.—A man, of middle age, whose general health had been excellent, the bowels being regular as a rule. There was a sudden development of symptoms of intestinal obstruction, and a small umbilical hernia was suspected of being the cause of the trouble. Abdominal section being performed, the hernia was found not to be strangulated, but a short, circular band was found binding down the ileum to the meso-colon. The patient rallied well, but on the seventh day an imprudent friend gave him a bowl of oatmeal gruel. He vomited, peritonitis developed rapidly, and he died the same night. This was the case in which it was thought recovery might have taken place.

Dr. Webster then read from the reports of cases by Dr. A. B. ATHERTON, of New Brunswick, to whom one of the members of the society sent the circular. He reported four cases, in three of which he had operated.

CASE I.—A man, aged fifty-five, ate about a quart of choke-cherries. The next morning he suffered from colicky pain and vomiting. He was given castor-oil and other cathartics. When Dr. Atherton was called, the extremities were rather cold, and the pulse was small and feeble. A large enema of warm water was given through a long tube, but with no effect. Before he was called several movements had taken place, and quantities of cherry-stones had been discharged, with fecal matter. Laparotomy was performed, and a twist was found in the descending colon. By nicking a peritoneal band, Dr. Atherton was able to untwist the gut, when fecal matter passed readily. The bowels moved on the third day after the operation, and several times afterward; but on the fourth day some fecal matter was seen at the wound, and death occurred on the seventh day. There was no autopsy.

CASE II.—The patient was found to be suffering from peritonitis on the right side of the abdomen. He had had a somewhat similar attack the summer before. Under treatment the inflammatory symptoms subsided in about nine days, but a week later the patient was seized with pain in the abdomen again, accompanied with vomiting and eructations, no flatus passing downward. On the sixth day the abdomen was opened, and a band was divided of about the size of a crowquill, almost buried in the peritoneal coat, stretching across the gut just above the cæcum. Improvement took place almost immediately. About the tenth day the patient walked into an adjoining room, and a day or two later began to complain of pain in the right inguinal region, where there was a swelling. The swelling was hard and dull on percussion. For several months this swelling kept coming and going, and finally disappeared altogether. The patient for the past two years had been quite strong and well. In both these cases it had been necessary to puncture the gut in several places to let out gas in order to return it.

CASES III and IV.—In one of these cases no operation was performed, but in both an autopsy was made. In the first, the patient died soon after the operation. A constriction was found situated three feet and a half from the pyloric end of the stomach, which accounted for the absence of intestinal distension. In the second there was gangrene of the whole transverse colon, with a twist of the gut below that point, which could not be undone until it was cut.

In his remarks upon these cases Dr. Atherton said there was no question but that it was of the utmost importance that an operation should be undertaken as early as possible, after perhaps one or two attempts had been made to give relief by large enemata. But it should first be pretty certain that strangulation existed. The points he relied upon in diagnosis were: The sudden onset of the symptoms; the persistence of the eructations and vomiting; the non-passage of wind *per anum*, except where the occlusion was incomplete; the absence of the board-like feel of the abdominal walls, which was present in ordinary peritonitis; the occasional irregular form of the abdominal enlargement; in some cases, in which the strangulation was situated high in the small intestine, entire absence of distension of the abdomen; and, finally, stercoraceous vomiting after the second or third day. This symptom was apt to occur rather late, and therefore was not useful in early diagnosis. It was present in greater or less degree in all the cases reported, but only in the first was the stercoraceous character distinct. The previous history might throw light on the diagnosis. In all three of the cases of operation the incision was made below the umbilicus, near the median line, and Lister's precautions were used throughout.

Dr. B. A. CLEMENTS, of the army, reported three cases:

CASE I.—In this case there was no stercoraceous vomiting. There was inflammation at the caput coli, which had given rise to constriction of the ileum.

CASE II.—The patient was a lady who had a vaginal hernia due to a fall, a portion of small intestine coming down by the side of the *cul-de-sac*. For two years afterward she suffered at intervals of two weeks to six months from symptoms of strangulation, which were relieved within six to eight hours by opium. There was no stercoraceous vomiting or obstinate constipation. It was probable the symptoms were due in part to local peritonitis.

CASE III.—A man was taken with severe abdominal pain, enormous distension of the abdomen following, with stercoraceous vomiting. Warm water was injected into the bowel with a long tube, but it returned. The great distension was relieved somewhat with an exploring-needle. Dr. Clements's assistant practiced Simon's method of examination, and found the sigmoid flexure apparently twisted. The hand was passed up sixteen inches, and no further obstruction was met with. The patient died, and at the autopsy general peritonitis was found, with intestinal inflammation. At two points the ileum was gangrenous, and at these places the bowel was twisted. There was no twist or obstruction of the large intestine.

The CHAIRMAN had seen a considerable number of cases of intestinal obstruction, but had not kept a record of them. The obstruction had occurred in the course of hernia, stricture of the rectum, cancer, adventitious bands, etc.

Dr. WEBSTER read additional reports of cases, and others remained to be read, but, as there was other business to come before the meeting, on motion of Dr. H. G. PIFFARD, the further reading of the report was dispensed with, and it was ordered to be printed and circulated among the members, the discussion to take place at some future meeting.

THE COLLEGE OF MIDWIFERY.—Dr. PIFFARD said the impression had gone out through the medium of the "New York Medical Journal" that it was the duty of the Committee on Legislation of the Medical Society of the State of New York to take action to prevent the passage of a bill relating to the establishment of a certain college of midwifery in this city, and the regulation of the practice of midwifery in this State. That bill, as was well known, had many very objectionable features, and it was a duty of the profession to the public to have it defeated. But it was a mistake to suppose that the Committee on Legislation of the State society should assume this responsibility. That committee had too much to attend to already, and had not been furnished with means to enable it to assume and execute further work.

Dr. A. W. WARDEN offered the following preamble and resolutions:

Whereas, An effort is being made to incorporate, by act of Legislature, a private institution under the name and title of the College of Midwifery of the City of New York, asking that such proposed institution have the right to confer the degree of graduate of midwifery, and that such diploma be a license to practice midwifery in the State of New York; and,

Whereas, The bill to incorporate such institution is defective in many important respects, and the objects sought by such legislation are considered injurious to the interests of the people of the State of New York and the medical profession of the State; and,

Whereas, No opportunity has been afforded the medical profession of the State or the Medical Society of the County of New York to be heard in regard to the measure; therefore,

Resolved, That the Medical Society of the County of New York hereby petition the Assembly of the State of New York to defer action until such time as this society can be heard in opposition to such measure.

Resolved, That a copy of this resolution, signed by the President and Secretary of the Medical Society of the County of New York, be transmitted without delay to the Assembly of the State of New York.

In the discussion, Dr. T. H. MANLEY said that he supported the plan of licensing midwives on general principles, and the bill in question in particular. The records of the Bureau of Vital Statistics showed that one third of the women in New York were attended in confinement by midwives, and, that being the case, the midwives should be educated and the practice of midwifery regulated by law.

Dr. H. J. GARRIGUES said he was not opposed to this bill because he favored another; he was against anything tending to produce midwives. A hundred years ago the whole of obstetrical practice, in normal cases, was in the hands of midwives. Then doctors began to take hold of this kind of practice. From France the new system spread to England, where it met with very great opposition, but yet prevailed. It was long afterward that Germany was drawn into it, but now they were so far advanced in that country that in the larger cities ladies who could afford it were attended in confinement by physicians. Until now, the Scandinavian countries had employed midwives exclusively, but of late a discussion had begun there with the aim of substituting doctors. All this showed that there was a current running through all Europe in the direction of placing parturient women, so far as feasible, under the care of physicians, and the cause of that was that the midwives did not give satisfaction. Often irreparable evil had been done before the midwife sent for a doctor. The midwives were not only incompetent, but dishonest. Any honest doctor stitched up a torn perineum nowadays. The midwife never admitted that the perineum had been torn, and thus the germ of a long series of diseases was planted. Midwives were not progressive. Even a good midwife would be entirely behind the times after ten years, while every doctor read some kind of journal, by which he was enabled to keep pace with the improvements introduced into midwifery. Midwives were the greatest quacks. Besides confinement cases, they took gynecological cases, and dabbled in children's diseases and many other things which belonged to the domain of the physician.

A previous speaker had said that the midwives should be women with an ordinary English or German education, but the want of education was just the chief cause of complaint of them in Europe. The midwives were recruited from the lowest classes; they had no social standing, and were miserably paid. They were an evil, but they could not be dispensed with in Europe. Russia had only one physician for six thousand inhabitants; Germany one to two thousand. In the United States there was one for every six hundred, and in New York city one for every four hundred and eighty. Under such circumstances midwives were not necessary here. The United States presented greater facilities than any other country for women who wanted to study medicine, so that those who wanted to be attended by persons of their own sex might have female doctors. If, in much-governed Europe, the midwives gave so much trouble, how would it be here with our free institutions? In the proposed law there was not the slightest guarantee that the midwives would be taught well; the only thing that was sure was that their number would be increased.

Dr. DANIEL LEWIS said that, whatever might be our ideas regarding the propriety of regulating the practice of midwifery and the training of midwives, it was very evident that the bill before the Legislature was objectionable, and that the profession of this city, as represented by the society, should take steps to prevent its becoming a law.

The resolutions were adopted with only one dissenting vote.

Dr. PIFFARD moved that a committee be appointed to go to Albany to oppose the passage of the proposed law. The motion was adopted, and the President appointed Dr. A. W. WARDEN and Dr. H. J. GARRIGUES such committee.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of March 18, 1884.

The President, Dr. JOHN A. McCORKLE, in the chair.

THE TREATMENT OF DIPHTHERIA AND CROUP BY LARGE DOSES OF BICHLORIDE OF MERCURY.—Dr. WILLIAM M. THALLON read a paper with this title. [See p. 401.]

Dr. G. G. HOPKINS had listened to the paper of Dr. Thallon with great interest, and, from the able and precise manner in which it had been presented, the principle laid down, in his opinion, was all the more dangerous. It was now some fifteen years since he first met his friend Dr. Prout in consultation over a case which had been under treatment by a late homœopath in the city of Brooklyn. It was a case of cystitis, and had been diagnosed as a case of spinal irritation. As a last resort, the doctor had administered bichloride of mercury freely, and the result was a profuse salivation. Since that time this speaker had been very much afraid of mercurials in frequently repeated doses, and he looked upon the present return to these frequent and free administrations as exceedingly dangerous. He believed that diphtheria could be treated successfully without mercurials. Several diphtheritic epidemics had been encountered by him, and he had never found it necessary to deviate from the stimulating plan of treatment. When he came to Brooklyn, stimulation was not in favor, but he was using it. Since then the treatment had become quite popular, and he was willing to compare the results of his stimulating treatment in diphtheria with those of any one in the city of Brooklyn. He had always found it work well. He had never had a case of paralysis following diphtheritic trouble, except of the fauces, and he had always administered stimulants. It was wonderful the amount of alcohol that these patients would tolerate. He recalled a case, occurring ten years ago, of a child eight months of age. He began with the administration of brandy, which he knew to be of the best quality, as the grandfather was a dealer and would, of course, furnish nothing but what was of first quality. He began by administering fifteen drops once in two hours. There was a diphtheritic membrane in the throat, and as the membrane increased the stimulation was increased, and *vice versa*. He finally, in this case, increased the dose to a teaspoonful once every hour. Then the membrane began to disappear, and in a short time it had vanished. He decreased the stimulant, and the membrane reappeared; increased the stimulant again, and the membrane entirely disappeared, and the child made a complete recovery. He did not remember the exact amount which was given, but it was very large. In the same street, the next year, he had another case in a young lady—a most severe case of diphtheria. When well, if that young lady were given a teaspoonful of brandy, she would be tipsy. She had never taken brandy before in any amount, but in this instance she took two tablespoonfuls of the best brandy every hour for a week. It was one of the most terrific cases of diphtheria that he had ever had to deal with. She made an entire and complete convalescence. He believed that in the use of brandy we had a treatment which was not dangerous. Mercurials had had a terrific history, and he thought great caution ought to be observed in their use. The profession ought to beware of their indiscriminate use. While he appreciated the paper read, yet he was glad to be present to protest against the use of bichloride of mercury in cases of diphtheria. He was not one of those who believed in the identity of croup and diphtheria. In diphtheria he deprecated the use of anything that depressed or debilitated the system. But in *true* croup it was the lesser of two evils, and his chief dependence was on mercurials. For the past three years tincture of the chloride

of iron was all that had been needed in most cases of diphtheria.

Dr. SAMUEL G. ARMOR, in commenting upon the paper, spoke of the care with which we should accept any new suggestions as to the treatment of diphtheria. If all the varied and boasted modes of treatment were collated, it would be one of the most curious chapters in all therapeutic literature; and doubtless much of the discrepancy grew out of experience based on entirely different types of the disease. Without accurate diagnosis, therapeutic suggestions were comparatively valueless. We recognized clinically the three types: simple, croupous, and malignant. He would not dwell on the characteristics of these. They were readily recognized. But the treatment of one of these types might be worse than useless in the others. Great reputations were often established in the treatment of the simpler varieties, which really require little or no treatment. In the more malignant variety a large number died under any kind of treatment. There were some points, however, in the excellent paper just read that were of peculiar interest—*first*, as to the remedy itself, and, *second*, as to the unusually large dose in which it was administered—a dose of the drug never heretofore recommended in any form of disease. The writer of the paper had alluded to Professor Pepper, of the University of Pennsylvania—an able, learned, and careful practitioner. It might be known to most of the members of this society that Professor Pepper read a paper before the American Medical Association some years ago, advocating the use of the bichloride of mercury in the relatively large doses recommended in this paper, and it might be of interest to the society to know how he came to thus use it. In a recent personal interview with Professor Pepper, he (Dr. Armor) had gathered from him the circumstances under which he came to use it in such apparently dangerous doses. The tolerance of such a dose was established by the merest accident—the blunder of a nurse. Dr. Pepper did not claim originality in its use. While attending a meeting of the State Medical Society of Pennsylvania, at Pittsburgh, a professional friend, whom he knew as a cautious and conservative man, read a paper detailing the use of the bichloride of mercury in the croupous forms of diphtheria in the large doses suggested in the paper of Dr. Thallon. Great success was claimed for the remedy. Amazed at the statements made in the paper, Dr. Pepper sought an interview with his friend, and learned from him that he stumbled upon the treatment by an accident of the blundering nurse referred to. In a severe epidemic of the disease he had been, like others, very unfortunate, losing a large percentage of his worst cases. Although discouraged, he still persevered with his quinine, muriated tincture of iron, chlorate of potash, etc., on one occasion prescribing these remedies every two hours, day and night. Within the first twenty-four hours, to his great surprise, his patient was better, the membrane was breaking up and sloughing off, and the child was in every respect better. During the next twenty-four hours it continued to improve, and now, for the first time, he learned from the nurse that the little patient, for forty-eight hours or more, had been taking by mistake a solution of the bichloride of mercury instead of the quinine and iron—the $\frac{1}{2}$ of a grain every two hours! It was to him a new revelation that such a dose, so oft repeated, had not destroyed the life of his patient, instead of curing his diphtheria! But, profiting by the blunder of the nurse, he prescribed the remedy in the same dose in other similar cases, and was gratified by the results obtained. He reported to the society over fifty cases thus treated, and with a success he had attained with no other remedy. Encouraged by the report of these cases, Professor Pepper, on the suggestion of his friend, had used the remedy with very gratifying results, but only, of course, in the *croupous variety*.

Dr. Armor had also used the remedy in the class of cases referred to, and, he was quite sure, with a success he had attained with no other remedy. In the more malignant varieties there was, of course, no substitute for quinine, stimulants, and alimentation, and he advocated the use of alcoholic stimulants at much shorter intervals than they are usually administered. In this connection, he alluded to the general action of mercury on the fluids and solids of the body. For a long time the general antiplastic action of mercury was taught by the schools and practiced by the profession. The profession had faith in it. Next to blood-letting, calomel and opium were regarded as the "sheet anchor" in the treatment of inflammatory conditions, especially in inflammatory conditions of serous and sero-fibrous structures. For a time the use of these agents was well-nigh universal, and we could readily understand that, in such extensive use, it was much abused. A reaction was natural. Finally, its antiplastic action was denied, and for the last ten or twenty years few practitioners had ventured to use mercury for this purpose. But a reaction was slowly taking place. The pendulum was swinging from one extreme to another. The younger members of the profession were finding, sometimes, as in this case, by merest accident, that the old doctrine as to the action of mercury in fibrous exudates was founded in fact. The drift of professional observation at the present time was certainly in that direction. In this connection Dr. Armor expressed the belief that in the background of these croupous exudates there was often a scrofulous diathesis. He had frequently observed that croupous children had fleshy or rather leucoplegmatic parents. There was a predominance of the adenoid element in one or the other parent. And this led him to remark on the use of small doses of mercury in the treatment of scrofulosis. Dr. Stokes attributed almost specific virtues to it in this class of cases; children often improved and fattened on it. At one time "Huxham's tincture of bark" with small doses of the bichloride of mercury was an exceedingly popular remedy, and it might be a question whether we had ever found anything better. A unique property of mercury, especially of the bichloride, in the estimation of Dr. Armor, was that it separated lowly vitalized from highly vitalized structures, and by this means relieved structures from lowly organized "cacoplastic" infiltrations. It drew the line of demarkation between healthy organized tissue and these diseased, lowly vitalized, and degenerate infiltrations—i. e., it rendered them capable of being acted upon by the absorbents. Hence its value in scrofulosis, and hence the fact so often observed that during its use there was a marked increase in the solids of the urine. In a case of croupous diphtheria with scrofulous diathesis recently treated by Dr. Armor with the bichloride of mercury in large doses, on the recovery of the child his attention was called by the mother to the fact that the scrofulous enlargement of the glands of the neck had disappeared with the diphtheria, a result probably due to the bichloride.

Dr. Armor further remarked upon the addition of small doses of the bichloride of mercury in combination with the chloride of ammonium in some forms of bronchial difficulty, especially in chronic cases in which the small divisions of the bronchi were loaded with a tough, viscid secretion, giving rise to combined dry and moist wheezing râles. He was quite confident that in many such cases it was a valuable addition at least to the chloride of ammonium, and tended to limit the peribronchial exudates that so frequently followed these catarrhal states of the mucous membrane. Finally, on the general question so well presented in the paper, Dr. Armor thought the bichloride of mercury was deserving of the attention of the profession. Other remedies of a stimulating and supporting character could be used at the same time as individual cases might

seem to require. In the more malignant forms, representing typhous states of the system, in which there was early and dangerous "blood poisoning," the profession would probably continue to rely on quinine, iron, chlorate of potash, and stimulants.

Dr. A. J. C. SKENE thought the merit of the paper depended on the fact that it only offered by way of suggestion this bichloride-of-mercury treatment as being possibly of value, and the suggestion was backed up by some clinical facts. One had a right to be somewhat skeptical when a remedy was presented for diphtheria which was said to be of infallible efficiency. But when the profession heard of something that promised good, it should at least claim attention; and therein he thought the merit of the paper lay. In the treatment of croup and diphtheria he had had some experience with this remedy, and he was of the opinion that either we had been entirely mistaken in regard to the doses of bichloride, or else a wonderful tolerance of the remedy had been established by diphtheria. He had used it in more cases than had been recorded in the paper—he had watched these carefully, and so far he had not seen the slightest harm arise. So far as his experience went, he was convinced that large doses could be given with perfect safety. Whether there was a tolerance of the remedy in these cases, or whether the profession had been mistaken in the dose, he was unable to say, because he had never given such doses to persons in health. With reference to the other method of treatment, in his medical childhood he might say he was brought up on whisky, in proof of which assertion it was enough for him to say that on his diploma he had the name of Dr. E. N. Chapman! If there ever was a man who taught others to use whisky in medicine, he was the man! He took all Dr. Chapman said regarding the use of stimulation as law, and he employed it faithfully in his practice. Still, he could not accept the challenge of Dr. Hopkins in regard to a comparison with the results of his alcoholic treatment. He could not, like the doctor, produce his cases in court, many of them having "joined the majority," yet he was satisfied that there were many cases where alcohol did a wonderful amount of good with reference to the bichloride as a depressing agent. He hoped the society had not forgotten the fact that the red globules were increased under its use. This had been demonstrated beyond doubt by Professor Keyes. His observations were made on syphilitic patients. Anæmic patients would also do better upon the bichloride than upon any other treatment. That bichloride was a dangerous remedy he thought was a mistake. He would like to take issue with Dr. Armor as to the use of the bichloride in malignant forms of diphtheria—conditions in which alcohol was demanded and called for. He saw no good reason why he might not employ it and at the same time give stimulants. He would not, with his experience, hesitate to use it in those malignant cases. He was perfectly sure of one thing—and that was that the results could not be very much worse than were obtained under the more fashionable modes of treatment. He thought there was no danger in a reasonable, rational use of the bichloride. Nor was it necessary to use it to the exclusion of other proper modes of treatment. If it aided us in any way, he was sure it would be of value. There was one point which he wished to call attention to, and that was that the bichloride treatment in many of the cases was not purely such. In most of the cases other remedies were used in conjunction therewith, so that it would be a little difficult to say to which one exclusively the benefit could be attributed. In the scarlatina case, eucalyptus was also given, but in such small doses that it was possible it had no effect. In conclusion, he would merely suggest that, while there was good evidence that mercury was of great value in croupous inflammations, there were also good reasons for giving it a full and fair trial in diphtheria. This could be done at last without danger.

Dr. HOPKINS wished to refer to one point in the remarks of Dr. Skene, and that was in relation to the use of bichloride in syphilitic disease. Would the doctor administer iodide of potassium in twenty-grain doses to a healthy person and expect the blood corpuscles to increase? They would increase if such dose was administered to syphilitic patients, but in healthy persons it would be otherwise. They would soon diminish in number.

Dr. SKENE, while he did not pretend to know much about syphilis, could take a chlorotic patient, anæmic, flabby, with pale mucous membranes, and a well-marked bruit, put her on the bichloride for a month or two with ordinary nourishment, and increase her red-blood globules and improve her condition markedly. Iodide of potassium would not increase the red-blood globules in a syphilitic patient, so that we must not pass the bichloride over the back of iodide of potassium. The bichloride would increase the red globules in tonic doses in syphilitic patients, and in patients free from syphilis. This fact was proved. The question had been raised at the time the observations of Keyes were made, and he thought it was fully demonstrated that the red-blood globules were actually increased by the use of bichloride, not only in syphilitic but in non-syphilitic patients.

Dr. G. H. ATKINSON remarked that something had been said about the action of mercury in syphilis, and, as he had more or less to say about this remedy in teaching, he desired to add his testimony in favor of using the remedy in some cases referred to in the paper. There was no doubt of the certain effect of the bichloride in plastic deposits of a low grade. The remedies he used most, however, were quinine, iron, and alcoholic stimulants, and, if any question arose about abandoning these, we had an opportunity to test the absolute value of bichloride, viz., in that class of cases where, after tracheotomy for croup, the disease (membrane) extended below the tube. Here, when all hope from medicine was abandoned, bichloride could be given a full trial, and, if successful, take its place in the list.

Dr. L. C. GRAY thought it very seldom that life was in danger in diphtheritic patients on account of the amount of exudation upon the mucous membrane. It was much more frequently the case that life was endangered from the great weakness which the disease induced; and the question had never fully occupied the minds of medical men as to what the cause of this weakness was. It was usually in no ratio with the fever present, and very often in no ratio with the amount of exudate. We were all familiar with cases where a very small amount of exudate and minute ulceration were accompanied by great prostration. The patient was within a day or two obliged to go to bed, and it took weeks for him to become strong and healthy again, and yet the thermometer might not range above 101° to 102°. Now, in a certain number of cases of diphtheria there occurred paralysis—a paralysis that, if it affected certain important nerves, as the pneumogastric or the spinal accessory, might end in sudden death. In every case where it affected the nerves it affected nerves of motion, terminating in motor paralysis. A sufficient number of these cases had been followed by autopsies and careful microscopic examinations, and it had been found that the pathological explanation was molecular disintegration of the great cells occupying the anterior or motor horns of the spinal cord. These cells were among the larger cells in the body, and it had been found that, when paralysis ensued in diphtheria, these cells were molecularly disintegrated. There was no effusion, no dilatation of vessels, no inflammation in the ordinary sense—simply this disintegration. The morphology of the cell was altered. It lost its shape. The nucleus, the nucleolus, the branching masses of protoplasm run-

ning off from the cell, *its processes*—all became involved in a more or less amorphous mass. Now, was it not a question whether this peculiar diphtheritic poison had not a predilection for these anterior-horn cells, causing in each case a motor weakness out of proportion to the thermometric record or exudate, and proceeding to well-marked cases of actual paralysis? It certainly seemed a very reasonable assumption to suppose it. There was certainly a close relationship between diphtheria-influences and the molecular disintegration of these anterior-horn cells. Now, if that was the pathology of diphtheria, there was nothing to show whether or not any known remedy had any effect, or what effect. Molecular disintegration of the anterior-horn cells constituted a very large group of diseases. It was the same in infantile paralysis. Many cases of adult motor paralysis were of the same group, also progressive muscular atrophy. In the light of these remarks, was there anything to show that quinine in small or large doses would arrest or in any way interfere with this fatal disintegration which was going to take place? In a disease like diphtheria, before a remedy could be especially relied upon there ought to be a much more careful study of the pathology than in the past. Every epidemic and endemic would vary in virulence; and who was to tell whether any set of cases belonged to the milder or the more virulent types, or whether this remedy should be milder or not? What record was there that would enable one to make a distinction between those cases having a fatal tendency and those that were modified by drugs? Until that was done, gentlemen might get up and sit down, and all they said after getting up would be but a mere expression of personal opinion in regard to the matter.

Dr. F. F. STUART had had but a limited experience in the use of bichloride in the treatment of diphtheria—three cases, with entirely satisfactory results. He had been very much pleased with the treatment. Dr. Atkinson's remarks reminded him of a case where tracheotomy had been performed in a case of diphtheritic croup. The membrane had extended down the trachea. A spray of the bichloride was used, and the membrane seemed to be dissolved. The patient, from the time the spray was used, made a rapid and entirely satisfactory recovery. Those who had done tracheotomy in these cases of croup, no matter what view of the pathology you might choose—whether there was a difference between the so-called membranous and diphtheritic croup or not—would recall some of the cases where the secretion of the bronchial tubes was thick, and where the tube was inserted the exudate was so thick as to clog it up, and, unless assistance was rendered, the life of the patient was greatly endangered. In such cases as these it seemed to him great benefit might be expected from the use of the bichloride spray. He was aware that the use of any spray, or even unmedicated steam, had a tendency to liquefy the bronchial secretions. But, at any rate, in future he would certainly use the bichloride spray. He had recently seen a medical work, popular about fifty years ago (Billing's "Principles of Medicine"), in which the *tonic* effects of the bichloride of mercury were spoken of. He (Dr. Billing) mentioned the use of bichloride in extremely small doses as a tonic.

Dr. B. F. WESTBROOK thought that Dr. Thallon was on the right track in endeavoring to find a remedy that would strike at the root of the evil. It should not be forgotten that, in the treatment of diphtheria, we were dealing with a malignant toxæmic disease—one of those diseases produced by the introduction of a poisonous germ into the body. The primary object of all our investigations should be to ascertain if there was any remedy which, by ordinary antiseptic, or a specific action upon the poison, would decompose it or antagonize it in such a manner as to obtund or entirely prevent the malignant influence

which it would otherwise exert upon the body. He believed, however, that Dr. Thallon, in making his calculations, had been overtaken by a very important fallacy—one the elimination of which would, in the opinion of the speaker, tend to overturn the theory that the bichloride of mercury had a neutralizing effect upon the diphtheritic poison, through its ordinary antiseptic properties—that is, of course, when given internally. He had not heard the first part of the paper, but he understood that the calculations were based upon the amount of antiseptic material that would be required to sterilize a given quantity of blood. The fallacy, he thought, lay in ignoring the fact that the blood was only one thirteenth of the body. The body was a succulent structure, made up of cells, blood, and other fluids. There was a constant interchange going on between the fluid in the vessels and that in the cells, processes of exudation and transudation, under the influence of the forces of osmose and capillarity. Any substance introduced into blood could not remain long in it exclusively, but must pass out into the cellular and intercellular structure. On this account it would be necessary, in order to conduct a sterilizing experiment successfully, to have a sufficient quantity of the antiseptic agent to act upon the entire body. That quantity, he thought, would be altogether too large to administer to a human being with safety. The body was made up of a collection of minute organisms. We were not individuals, except in the sense that we were, each one of us, an individual community made up of myriads of lesser individual members, each one of which was susceptible to the action of the germicide or antiseptic agent. A sufficient quantity to arrest a putrefactive process would, while it stopped the nutrition of the bacteria, also devitalize the cells and embalm the body, so that it would indeed no longer be affected by diphtheria, but at the same time would become a useless member of the body politic. It was possible, however, that, aside from the simple antiseptic action of the bichloride, it also possessed some specific power over this poison, as the cinchona salts did over the toxic agent of malaria. There seemed to be some doubt as yet whether the poison of diphtheria was a bacterial poison. The researches of pathologists had, so far, failed to identify any particular specific microscopic organism. Of course, a bacterium of diphtheria had been alleged, but, so far as the speaker knew, there was no means of identifying it and isolating it from the other organisms. Bacteria, particularly micrococci, were found in the bodies of diphtheritic patients, but whether they were the poison, or only acted as carriers of it, was hard to determine. In the further investigations which he hoped Dr. Thallon would make, this question ought to receive special attention.

In regard to the action of the bichloride, there seemed to be a diversity of opinion among the gentlemen who had used it. Professor Armor had referred to two kinds of diphtheria, croupous and malignant. The speaker did not understand what was meant by these terms. If by croupous was meant a diphtheria which involved the larynx and was not accompanied by severe constitutional manifestations, it might possibly be classed with ordinary inflammatory croup, and could be treated with bichloride or the other mercurials, iodide of potassium, pilocarpine, or any of the other well-known drugs. If, however, by croupous he referred to the form of membrane which was found on the surface of the mucous membrane, and which did not involve the latter to the extent observed in the other varieties, which could be removed without destroying the mucous membrane so as to produce hemorrhage, he thought it might be ruled out of the discussion, inasmuch as these mild forms were not the ones for which we were seeking a remedy. As to the nature of the diphtheritic process, there was no doubt that it was a constitutional affection. It was probable that the infected blood had

such an effect, in one way or another, upon the epithelium that it induced a coagulative necrosis—that is, a peculiar necrotic process in the cells analogous to the coagulation of albuminous fluids. This coagulating process solidified the cells, destroyed the nuclei, and welded them together into a homogeneous mass. The migration of leucocytes and accumulation of other substances helped to make up the false membrane. The depth to which the process went seemed to be the main anatomical distinction between croup and diphtheria. If the bichloride had the effect of liquefying or loosening such products as this, a part of its action might be readily explained. He believed that the view held by therapists was that mercury acted on abnormal deposits by producing some kind of soluble albuminate, which was absorbed and excreted from the body. In the case of a coagulative necrotic process in the substance of a mucous membrane, it might, by causing liquefaction of the deeper layers, favor the separation of the rest.

Another explanation might be found in its well-known action upon the glandular epithelium. It increased secretion. It was in this way that it softened the cough in bronchitis, increased the fluidity of the exudation in croup, etc. So, in diphtheria, by increasing the secretion of the mucous glands beneath the pseudo-membrane, it might loosen it and favor its expulsion. If it could be ascertained that it really had this effect in diphtheria, it would be a very valuable addition to our knowledge; but it should be remembered that this property was entirely different from an antiseptic one. It still remained to be demonstrated that, given internally, it had any general or specific antiseptic influence.

Dr. E. H. BARTLEY recalled the fact that children tolerated both the bichloride and the mild chloride of mercury in large doses. He had given both for days together, and the only perceptible effect was their action on the bowels; there was no salivation. He had seen children take a quarter of a grain of the mild chloride of mercury every three or four hours for some days and without evil effects. The idea of administering the bichloride of mercury as an antiseptic seemed to him mere nonsense, as, when the patient has a high temperature, over 100°, the mercury would be reduced to metallic mercury, or the oxide of mercury, in a short time. Experiments had proved that a large proportion of mercury was reduced to the metallic state, and was eliminated in that way. Of course, it was not all reduced, otherwise we could not get the peculiar effects of the various forms in the treatment of disease. That a large proportion was reduced could be demonstrated by placing a specimen of the contents of the duodenum under the microscope after its administration, when the characteristic globules might be observed. If such was the case, it could, in his opinion, be relied upon as an antiseptic agent for internal administration to a very great extent. It seemed to him that, in order to render the body aseptic, a sufficient quantity of the antiseptic material must be accumulated in the blood to antagonize the poison; and he did not see how material such as mercury could be made to meet the conditions. Alcohol was probably the only agent we had that could be administered in sufficient quantities to render the blood aseptic by accumulation, except possibly some of the benzoic or salicylic compounds. But, when we consider that the bichloride, when administered with other vehicles, as the elixir of bismuth, might be changed to oxychloride of bismuth and oxide of mercury, a compound not calculated upon, and that the bichloride was also decomposed in the alimentary canal, as he had stated, and its effects upon the peptones of the body, it was pretty clear that any attempt to administer a sufficient quantity to render the blood aseptic could not be successful. There might be a local effect upon the diphtheritic membrane, and probably some of the bichloride might be absorbed, and in

this way a beneficial action be experienced. In that way the spray-solution might be of benefit. When we gave a child, moreover, who was constantly struggling, and whom the nurse and all the family can not control, a spoonful of medicine, that medicine, by the time the operation of giving it was finished, was pretty well smeared over everything. If that medicine happened to be the 32d of a grain of the bichloride, he did not think that the child received very much benefit from it, except from its local antiseptic effect. If there was a certain amount absorbed, it entered the system in some mysterious way, but it could not remain as bichloride in the blood, and, if any antiseptic action was obtained, it was not from the bichloride. In regard to the manner of administering alcohol, the speaker thought it should not be given at the expense of rest. To wake a child up every quarter of an hour did not appear to him to comport with the principle of rest, for it was certain that the child was exhausted, and by that method of administration it was utterly impossible to give the child a sufficient quantity of rest.

Dr. CHARLES JEWETT asked whether the exudate which we sometimes noticed in the fauces of scarlet-fever patients indicated the presence of diphtheria.

Dr. WESTBROOK replied that he could not give a very positive answer to the question. From what was known of the two diseases, however, it was altogether probable that it did not. The scarlet-fever poison, it was well known, manifested a great predilection for the mucous membrane, particularly of the upper portion of the alimentary canal. One of its first effects was to set up an intense irritation of these membranes, accompanied by vomiting, red and heavily coated tongue, which afterward assumed a typically inflamed appearance, and erythema of the fauces and pharynx. When the disease was severe, the tonsils ulcerated and pseudo-membranes formed upon them. But this occurred during periods when diphtheria, as a distinct disease, was not prevalent, and in regions where no cases of diphtheria were observed. Epidemics of diphtheria also prevailed without a coincident increase of scarlet fever. The clinical history and the sequelæ of the two diseases were quite distinct, so that it could hardly be said that the presence of a false membrane on the fauces of a scarlatinal patient was evidence of the presence of diphtheria. It was the scarlatina anginosa, or scarlatina maligna of the old writers, and appeared to have prevailed independently of diphtheria epidemics.

Of course, it could not be denied that a scarlet-fever patient might also become infected with the diphtheritic poison, but the speaker believed that such combinations of different diseases were not common.

Dr. THALLOX, in concluding the debate, did not expect to say much, at the late hour reached, in reply to the various criticisms upon his paper. In the early part of the discussion the sentiment of the gentlemen speaking seemed to be in favor of the use of the bichloride in the first condition of croupous cases; that it was of great value in the inflammatory type. With that statement, all who took part in the discussion from a clinical standpoint seemed to agree. Regarding the criticisms of Dr. Hopkins, which were directed entirely to the last part of the paper, which dealt with malignant cases, he had taken great pains to state that the evidence that he had to offer was almost entirely concerned with the first type of the disease. The cases which he had related nearly all belonged to the first type. The second part of the paper contained a mere *suggestion*, to which he attached little value himself compared with the clinical evidence, but it had been taken up as if that were the main part of the paper. His friend, Dr. Westbrook, had said that he came in late and did not hear the first part of the paper, which might account for so much of the gentleman's criticism being wide of

the mark. He would not pretend to reply to the pathological sermon which had been preached, and he did not think it was worth while to spend much time in answering theoretical speculations of that sort. The same might be said in reference to Dr. Bartley's remarks. He did not intend to reply to them. Whether there was a changed condition of the bichloride according to the vehicle in which it was administered, or whether its chemical effects were local merely, mattered but little when it was evident that the medicine did good constitutionally. If we were to wait for clinical results, until the doctor could explain chemically the action of the remedies, before we accepted them as valuable, we had better stop the practice of medicine altogether. Therefore, because the doctor was unable to reduce the whole question to a formula counted for very little. In support of the treatment there was a vast mass of material. Cases had been given by members to-night and many others quoted, and the mere fact that we were or were not able to explain on chemical principles the matter under discussion did not invalidate such evidence. With reference to the use of the bichloride in malignant cases, he had but little experience, but that little and the reasons he had alleged were strongly in its favor. So far as the paper went, he thought it had served its purpose in drawing out the ideas of members as to the treatment in the first class of cases—i. e., membranous croup—and that was his object. He thanked the society for the manner in which his paper had been received.

Z. T. EMERY, M. D., *Secretary*.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 26, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

WEIGERT'S METHOD OF STAINING THE NERVES AND THE CENTRAL NERVOUS SYSTEM.—Dr. T. M. PRUDDEN presented some specimens of nerves and of the spinal cord, a part of which illustrated lesions of locomotor ataxia, stained with acid fuchsin, or the sulphate of rosaniline, after the method of Weigert, of Leipzig—a method which, although announced a year since, had not come into common use in this country, England, or even Germany. It was of special advantage in studying the nervous system. All the parts were alike stained red by the agent, but afterward, when treated with a dilute solution of caustic potash, the color was extracted from some of the elements sooner than from others. The axis-cylinders and parts of the myelin retained the color longer than other parts, and in some of the specimens presented they could be very distinctly seen as red lines standing out on a colorless background. The reagent had to be quite pure, and he had been unable to obtain any in this country which would answer the purpose, but it could be obtained of Dr. Grüber, 17 Dufour Street, Leipzig.

COLLOID CANCER OF THE PERITONEUM.—Dr. H. N. HEINEMAN presented the specimen on account of its great thickness and extent. The portion of peritoneum presented, which had undergone colloid degeneration, was more than two inches in thickness. The patient was forty years of age. There was no clinical history.

SACCUCLATED EMPYEMA; PNEUMOTHORAX.—Dr. HEINEMAN also presented a specimen removed from the body of a man forty-five years of age who died the evening before at Mt. Sinai Hospital, to which he had been admitted March 15th. His health began to fail a year ago; he suffered more or less from dyspnoea and cough, with slight expectoration. A short time previous to admission he was seized with shortness of breath, pain, muco-purulent expectoration, and a severe chill followed by sweating, and afterward almost regularly every afternoon

there was a rise of temperature, with sweating. The cough and dyspnoea increased. Health rapidly failed, and he was obliged to cease work. His physician treated him for pneumonia. After admission, the afternoon temperature during the remaining days of life varied between 102.5° and 104° F., the pulse was rapid, the respirations were from 48 to 50, and there was a lesser elevation of the morning temperature. He continued to grow weaker, three days before death oedema set in, and death took place from asthenia and oedema of the lungs. At the autopsy the pleura was found to be thickened and adherent, and on one side it inclosed two sacs, non-communicating and filled with pus, and there was another similar sac at the diaphragmatic portion. There seemed to be no channel by which the pus contained in the three separate cavities could have reached the bronchi. The other lung was emphysematous and the seat of chronic bronchitis. The heart was somewhat fatty, the aortic and mitral valves were thickened, and the kidneys were the seat of slight chronic diffuse nephritis. It would be interesting to know just how the pleuritic lesions took place. Dr. Heineman thought it probable the man had had empyema, and that it had tended toward recovery, but relapses had taken place and pus was inclosed between the adhesions, forming the cavities referred to.

Dr. E. G. JANEWAY had seen two similar cases during the present year. One had followed pneumonia. The house surgeon would draw off about four ounces of pus from one sac, and, failing to get more at that locality, would insert the needle at another point and draw off perhaps four ounces more, and in this way the presence of several distinct pleuritic sacs containing pus was demonstrated. A second case began with hydro-pneumothorax, and the patient finally recovered. In a third case, in which an autopsy was made the preceding week, hydro-pneumothorax had developed quite suddenly.

HORSE-SHOE KIDNEY, THE SEAT OF CHRONIC DIFFUSE NEPHRITIS.—Dr. F. FERGUSON presented the specimen, which was removed from the body of a man who was brought to the hospital on the 18th of January, with the statement that he had been suffering for three or four days with dyspnoea, and had been using opium for the last five years. At that time he was taking fifteen grains daily. At the time of his admission the dyspnoea was extreme; the urine contained thirty per cent. of the column of albumin.

CONGENITAL ABSENCE OF THE LEFT WING OF THE DIAPHRAGM.—Dr. FERGUSON presented the body of a colored infant from the morgue, showing absence of the diaphragm on the left side. The stomach, the left lobe of the liver, the greater part of the small intestine, and the caecum were all in the left pleural cavity. The left lung was not developed beyond the size of a hickory-nut, and was emphysematous. The right lung was well developed.

HEMORRHAGE INTO THE PONS.—Dr. FERGUSON also related the following case, and presented specimens: The patient was brought to the hospital by the ambulance on the 16th of March. He had worked out of doors. The friends said he had been paralyzed for twenty-four hours and had become comatose. The surface was dry, the muscles were relaxed, the pupils were equally contracted and irresponsive to light, and the bladder was distended with urine, which was withdrawn and was found to contain ten per cent. of albumin; the temperature was 100° F., the pulse was 80, the respiration was slow and stertorous. Pilocarpine and hot-air baths failed to produce diaphoresis. The patient became partially conscious. The reflexes were lost in the afternoon, and the patient died the same day. At the autopsy the ordinary lesions of chronic diffuse nephritis were found far advanced, and the condition of the heart invariably associated with chronic diffuse nephritis was present. A hemorrhage of considerable extent was found in the pons, which

had escaped into the fourth ventricle, completely filling and distending it with fluid blood. There had been no escape of blood into the subarachnoid space. It was only the second instance in which Dr. Ferguson had seen hemorrhage in this locality in cases of diffuse nephritis.

Dr. HEINEMAN recalled a case in which Dr. Alonzo Clark had diagnosed absence of a part of the diaphragm from the tympanitic resonance given by the intestines within the thoracic cavity, and from the coexistence of congenital heart disease.

Dr. R. W. AMIDON said that Dr. B. G. Wilder had presented the brain of a cat at the meeting of the American Neurological Association, in 1883, in which there was absence of the corpus callosum, and had referred to the case of a man in whom there was a similar abnormality, but of whom it had only been recorded that he was very profane and quarrelsome.

Dr. JANEWAY said, in reference to the fourth specimen, that it was commonly noted in books on diagnosis that the presence of albumin in the urine was one of the evidences of coma due to uremia. As a matter of fact, however, it was quite common to find albuminuria in cases of cerebral hemorrhage.

CHRONIC PROLIFERATIVE PERITONITIS.—Dr. L. H. SAYRE presented the specimen for Dr. L. A. SAYRE, and read the history. The patient was sixty-six years of age, a large and robust man, always healthy until 1876, when he suffered from a severe attack of double pleuro-pneumonia, after which he was never entirely well. Two years after he fell and sustained a severe concussion of the spine, which was followed by complete temporary paralysis of the lower extremities and of the bladder. In 1879 he fell again from a hammock, and afterward suffered from intense pain across the stomach, extending over the abdomen, and indicating acute peritonitis. For the remaining six years of his life he took daily hypodermic injections of morphine to relieve pain. Swelling of the limbs and ascites developed, and he was tapped one hundred and eighty-seven times and large quantities of fluid were drawn off, amounting, in all, to 1,203 $\frac{1}{4}$ pounds. Only once or twice was a trace of albumin found in the urine. The quantity of urine passed daily since 1879 had gradually diminished from year to year, until during the last forty-eight hours of life it amounted only to seven ounces, and the patient died of uræmia. Dr. Welch made the post-mortem and microscopic examinations, and, in addition to the lesions of peritonitis, found lesions in the heart, pericardium, lungs, pleura, liver, spleen, kidneys, and bladder, and atheromatous degeneration of the arteries. The brain and cord were not examined.

DIPHTHERITIC DYSENTERY FOLLOWING CONFINEMENT.—Dr. JANEWAY presented a large intestine the whole length of which was involved by diphtheritic inflammation, probably of not more than four days' duration. The interesting feature of the case was that it should have happened just after confinement. The woman was twenty-three years of age, a domestic, who was delivered of her first child on March 18th, at 6 P. M., labor being normal and lasting six hours. The temperature on the following morning was 99° F., and remained at that point until the afternoon of the second day, when it suddenly went up to 104.4°. And the uterus, which had contracted well after delivery, increased to a large size, extended above the umbilicus, and was flabby. There was a discharge from the vagina, somewhat colored, which was increased by pressure upon the uterus. There was no perceptible odor. Intra-uterine douches of bichloride solution, 1 to 2,000, were given when the temperature rose. On the night of the 22d she had a number of diarrhoeal movements, perhaps eight. These were afterward controlled by suppositories of opium. On the last day of her life, although the temperature continued high and the heart-beat was comparatively strong, there was no pulse at the ankle or wrist, and the hands were cold. She had taken full, but not

excessive, doses of ergot. She had had morphine, whisky, and quinine. At the autopsy there was found to be some diphtheritic endometritis, with some patches on the vagina, but the lesions were not so striking in the genital tract as in the large intestine. There were no other lesions except slight parenchymatous nephritis and a large, soft spleen. The case was interesting, as it demonstrated that in some of these cases the intra-uterine injections would not touch all the disease. In this case the lesions in the intestine had the appearance of being older than those in the uterus. It was further interesting as illustrating a point which Dr. Janeway had frequently remarked, namely, that simple inspection of the discharges would not always enable us to determine the absence of a serious diarrhoeal disease; and, even should a little blood or a few clots be found in the stools after delivery, they might readily be attributed to the lochia.

TUBERCULAR PLEURISY.—Dr. JANEWAY also presented a specimen removed from a patient who had suffered from tubercular pleurisy, with absence of tubercles in the lungs and other portions of the body. There was also hypertrophy with dilatation of the left ventricle, caused by aortic regurgitation, and the usual sound accompanying that lesion was preceded by a louder sound heard at a higher point, due to the blood passing over the calcareous and roughened valves.

DEATH FROM PERITONITIS FOLLOWING PERFORATION OF THE APPENDIX VERMIFORMIS.—Dr. J. LEWIS SMITH presented a specimen with the following history: On March 16th he was called to a woman of about twenty-five years, fleshy, and of robust appearance, a seamstress, who, for two or three months preceding the attack, had complained of a dull, aching pain low in the abdomen on the right side, and in the pelvis. At the time of his visit the pain had suddenly become more severe, and it extended over the entire abdomen, but the tenderness, though general over the abdominal cavity, was most severe in its lower part, especially on the right side, in the iliac region. She complained that the pain extended even to the right shoulder. With these grave symptoms he was surprised to find the temperature, taken under the tongue, normal, and the pulse not accelerated. The respiration was normal. There was no appreciable meteorism or distension of the abdomen, but it was unusually hard on pressure. She had no vomiting and no diarrhoea. A large poultice of flaxseed and mustard was applied over the abdomen, and sulphate of morphine was directed to be given every three hours, or oftener if needed for the pain, in quarter-grain doses.

On the following day the symptoms remained about the same. The temperature, taken under the tongue, was still not elevated. On the third day she stated that she had vomited occasionally, the temperature was elevated, but not more than two or two and a half degrees, and subsequently it did not rise above 102.5° F. The pulse was about 100. Her monthly flow had now begun, which was about one week before the usual time. Its early appearance was attributed to the poulticing. She stated that similar pains had always accompanied her catamenia, though perhaps less severe.

Her features now began to show more serious sickness than at first, and the doctor became anxious as to the result, so that she was visited twice daily, though he was not apprehensive of her immediate death. It seemed to him that she had inflammation in the region of the right ovary, with some surrounding peritonitis, and he thought of perforation of the appendix vermiformis, but was not prepared to accept the diagnosis of a general peritonitis from the history of the case and the symptoms. The flow of blood continued, and the patient remained about the same, with occasional vomiting and the aspect of more serious sickness than at first, till the afternoon of the sixth day,

when she suddenly went into collapse and died. The physician who saw her at this time, in the absence of Dr. Smith, believed that she had sustained an internal rupture of some kind.

Autopsy, twenty-three hours after death.—The body had been surrounded by ice. There was no appreciable meteorism, or distension of the abdomen; the abdominal walls were thick from fat. On opening the abdominal cavity, very fetid pus escaped, filling the room with the offensive odor. General recent peritonitis was found, with agglutination of the intestines. The peritoneum was of a pink color, and readily stripped from the intestines. The inflammatory lesions were most marked in the right iliac region, and in this locality, extending down into the pelvis and reaching the ovary, the walls of an abscess could be made out, especially on the parietal surface of the peritoneum. The appendix vermiformis, curled around so as to lie against the cæcum, was of about the size of the little finger, of a slate-color, as were also adjacent parts, probably from long contact with pus, and firm or solid to the feel from infiltration. Near its middle was a perforation large enough to allow a slate-pencil to pass. On account of the offensive odor of the pus, the foreign body was not searched for. The uterus was not opened, but it was normal in size and appearance.

It seemed evident, from the lesions and the history, that some foreign body had lodged in the appendix, probably three, perhaps four months before death, and that when this body, by ulceration, had reached the peritoneal covering of the appendix, perityphlitis occurred, producing the abscess. Rupture of the abscess and escape of fetid pus and the foreign body into the abdominal cavity caused the fatal peritonitis. Usually peritonitis, when acute and general, could be diagnosed readily, but in some instances, as in the present, a clear and certain diagnosis was not readily made. Dr. Smith had once attended a young woman in her confinement who, immediately after the birth of the child, had intense general peritonitis, of which she died in a few days. At the autopsy it was found that a similar abscess, produced by the perforation of the appendix by a baked bean, had ruptured. Were such a case, without an autopsy, reported nowadays at any of our medical meetings, it would undoubtedly be said that the patient died of septic peritonitis, and the neglect to wash out the uterine cavity would be deplored.

It appeared, from the history of this case and those of others, that in a considerable proportion of instances perforation of the appendix did not cause immediate death, but gave rise to perityphlitis and an abscess, which, so long as it did not rupture into the peritoneal cavity, was not fatal. If the physician were consulted before the abscess broke, it seemed probable that he might, as a rule, save the life of the patient by opening it externally. Life had, in one instance that had been reported to him, been saved in this way.

Dr. FERGUSON had seen a case in which the extremity of the appendix was necrotic.

Dr. W. M. CARPENTER asked Dr. Ferguson if there were old adhesions which held the vermiform appendix in an abnormal position in his cases.

Dr. FERGUSON said there were only such adhesions as belonged to the last sickness.

Dr. CARPENTER remarked that the late Dr. Krackowizer had advanced the view that in most, if not all, cases of perityphlitic abscess, with perforation of the vermiform appendix, there had occurred a peritonitis, perhaps early in life, which resulted in fastening the appendix in an abnormal position that favored patency of its opening from the mucous membrane, and hence rendered it especially liable to receive foreign bodies traversing the alimentary canal. He had been unable to confirm the statement by autopsies made at Bellevue.

Dr. JANEWAY said it was a mistake to suppose that the vermaform appendix, the seat of a foreign body, always became perforated very easily. He had seen one case in which it had become distended to the size of a child's head, and in another to that of a Bologna sausage.

Miscellany.

THERAPEUTICAL NOTES.—*Sulphate of Iron in the Treatment of Hemorrhoids and Proctocoele.*—Dr. Samuel Wimpelberg writes to the "Medical Bulletin" that he has had more favorable results with the persulphate of iron in the treatment of hemorrhoids than with any other drug in the pharmacopoeia. He recommends an ointment of the subsulphate, in the proportion of twelve grains to the ounce, to be applied night and morning. In cases of proctocoele, he uses the persalt internally, in doses of two grains three times a day, in conjunction with the local use of the ointment. He speaks particularly of the rapidity with which he has known piles to disappear under this treatment during pregnancy.

The Action of Salicylate of Sodium on the Uterus.—According to the "Bulletin général de thérapeutique," M. Balette has arrived at the following conclusions in regard to the action of salicylate of sodium on the uterus: In ordinary therapeutical doses, it allays the pains of dysmenorrhœa, probably by its sedative action on the central nervous system. It appears to promote the menstrual flow, and, in some cases, to provoke its reappearance. In four instances, given in large doses, it was followed by abortion, but moderate doses seem to have no tendency to act as an abortifacient. No oxytocic effect was ever observed in experiments on animals. Nevertheless, the caution is added that it should never be given during gestation, except on very precise indications, and that then its action should be watched carefully.

The Physiological Action of Paraldehyde.—At a recent meeting of the Paris *Société de biologie* ("Gazette hebdomadaire de médecine et de chirurgie," March 21, 1884), M. Hénoque gave an account of some of the results of his experiments with this agent on animals. He insisted particularly on the decided reduction of the interchange of material produced by it in the tissues, accompanied by a notable and rapid lowering of the temperature, slowing of the respiration, and diminution of the oxy-hæmoglobin in the blood. These effects, he considers, furnish an explanation of its retarding and even arresting the action of certain poisons, such as nitrite of sodium and strychnine, without the need of supposing that any real antagonism exists between them, as has been maintained in the case of strychnine.

The Salts of Lead in the Treatment of Erysipelas.—Several letters having lately been written to the "Lancet" concerning the use of white lead in the treatment of erysipelas, Mr. J. H. G. Drummond, of Manchester, writes to that journal that he has made free use of a preparation termed "Wilson's linimentum plumbi lactatis compositum," which, he intimates, contains the albuminate and the salicylate of lead. On these constituents, he thinks, the efficiency of the preparation as a surgical dressing largely depends. He has always found it successful in erysipelas, and, although he has applied it to extensive surfaces, he has never known toxic symptoms to arise.

THE MISSISSIPPI STATE MEDICAL ASSOCIATION met at West Point on Wednesday, the 2d inst.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS will hold its annual meeting in Washington, May 5th, at 8 P. M., in Medical Hall, Southeast corner of Sixth and F Streets. The Annual Address will be delivered by President Leartus Connor, M. D., on "The American Medical Journal of the Future, as Indicated by the History of American Medical Journals in the Past." Dr. N. S. Davis will open the discussion on "How far can Legislation Aid in Elevating the Standard of Medical Education in this Country?" in which Dr. A. B. Palmer, Dr. Henry O. Marcy, Dr. L. S. McMurtry, Dr. C. H. Hughes, Dr. Frank Woodbury,

Dr. William Brodie, Dr. A. N. Bell, Dr. William E. Atkinson, Dr. W. C. Wile, Dr. W. R. D. Blackwood, Dr. Henry Leffmann, and Dr. Deering J. Roberts will take part. All members of the profession, especially journalists and authors, are invited to be present and take part in the meeting.

[Signed.]

JOHN V. SHOEMAKER, M. D., Secretary.

THE NEW YORK NEUROLOGICAL SOCIETY held its annual meeting Tuesday evening, the 1st inst., and the following-named gentlemen were elected officers for the ensuing year: Dr. W. J. Morton, president; Dr. C. L. Dana, first vice-president; Dr. R. W. Walsley, second vice-president; Dr. E. C. Wendt, recording secretary; Dr. W. M. Leszynsky, corresponding secretary; Dr. E. C. Harwood, treasurer; Dr. E. C. Seguin, Dr. L. Weber, Dr. T. A. McBride, Dr. G. M. Hammond, and Dr. W. R. Birdsall, councillors.

THE ILLINOIS STATE BOARD OF HEALTH will hold its regular quarterly meeting at the Grand Pacific Hotel in Chicago, beginning Thursday, April 17th. At this session candidates for certificates will be examined, both non-graduates, who must undergo an examination upon their preliminary education as well as in the usual branches of medical study, and also graduates of colleges which have not fully complied with the schedule of minimum requirements adopted by the board in 1880, and in force from and after the session of 1882-'83.

A NEW TEST OF WATER PURITY.—Dr. Angus Smith, F. R. S., reports to the Local Government Board, as one of the inspectors under the Rivers Pollution Prevention Act, that in all natural waters sugar ferments and hydrogen gas is given off, the proportion varying with the organic impurity of the water. The proportion of hydrogen evolved will prove a quantitative test of the virulence of the microbes present in the waters.—*Medical Times and Gazette.*

A LITTLE KNOWLEDGE.—A candidate at a recent examination for a scholarship under the School Board is reported to have made the following statement concerning the process of digestion: "The food passes through the liver, and evaporates by means of little holes called capillaries." The examiner who published the answers suggests that this novel theory had its origin in the study of some cheap diagram of the digestive system. Knowledge of this kind is indeed a dangerous thing, and worse than conscious ignorance. There is a simple ignorance, and there is a compound ignorance—that is, there are people who are ignorant and know that they are, and there are people who are ignorant and think they know. The latter only are a dangerous class.—*British Medical Journal.*

FOOD FOR THE WORKING MAN.—The Paris correspondent of the "British Medical Journal" (February 28, 1884) says: M. George, in a lecture "On Food for the Working Man," given at the Conservatoire des Arts et Métiers, stated that, in 1841, when the railway from Rouen to Paris was constructed, the English employed on it did more work than the French. The authorities, on inquiry, ascertained that the English workmen were fed principally upon meat, and the French principally on vegetables. The French were consequently put on the same diet, and achieved more work than their neighbors. M. George impressed upon his audience the necessity that working men should eat "butchers' meat," not pork. He recommended horse-flesh. By means of a magic lantern, M. George showed representations of a series of edible animals, and indicated the best and most healthy portions for working men's food.

TOXIC ACTION OF COPPER.—It seems to grow more and more doubtful whether copper can be reckoned among the poisonous metals. Of course, in large quantities it is noxious; but this is true of alcohol and of many other compounds, which can not fairly be considered as poisons. The latest experiments tend to indicate that, at any rate, copper is not a cumulative poison, like lead. MM. Houllès and De Pietra Santa, in a recent communication addressed to the Académie des Sciences of Paris, report that they have been unable to discover any injurious action on the health of the workmen engaged in the copper industry, and have come to the conclusion that the so-called "colique de cuivre," asserted in the eighteenth century to be a definite disease, does not exist.—*Lancet.*

Original Communications.

SUPER-ALIMENTATION, ARTIFICIAL ALIMENTATION AND GAVAGE, AND THE EMPLOYMENT OF ALIMENTARY POWDERS, ACCORDING TO THE METHOD OF DR. DEBOVE.*

By HENRY B. MILLARD, A. M., M. D.,

MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK; VICE-PRESIDENT OF THE NEW YORK MEDICO-CHIRURGICAL SOCIETY; HONORARY MEMBER OF THE SOCIÉTÉ ANATOMIQUE DE PARIS, ETC.

THE system of treatment of numerous chronic diseases by the method indicated in the foregoing title, as introduced and practiced by Dr. Debove, of Paris, has become in the medical world, of that city at least, a subject of great interest. Except in France, however, no full exposition of it has been published, and such *excerpts* as have appeared have been so meager as to give but a faint idea of its character.

In 1882, while I was in Paris, some of the medical friends of Dr. Debove gave me an account of the remarkable effects of his treatment, which seemed to me at the time a little exaggerated. I had made an appointment to visit the Bicêtre with him for the purpose of observing the practical working and results of his system, but was prevented from keeping it. I was more fortunate last summer, and passed considerable time with Dr. Debove at la Pitié, where he was then on duty, in examining patients treated by him by artificial and super-alimentation, taking notes of their histories, etc. I had then his own explanation of his method, the preparations of the powder used, etc., amplified by later interviews and correspondence; and, as I have since employed his system to a considerable extent, I look upon it as a duty to present to my medical brethren at home a brief exposition of what I consider a most valuable addition to the therapeutic art. Although since leaving Paris I have perused everything, I believe, likely to be of importance upon this subject, still, had not my own experience been favorable, I should perhaps not be inclined to write upon the subject.

The essential features of Dr. Debove's system may be mentioned as:

Artificial alimentation, by the œsophageal sound (*gavage*).

Super-alimentation, or alimentation by considerable doses of aliment, which, according to Debove, can be effected only by the sound, and

Lavage (washing or rinsing the stomach).

In papers read before the Société Médicale des Hôpitaux, in November, 1881, and April, 1882, upon the treatment of pulmonary phthisis by forced alimentation and upon the subject which constitutes the title of this paper, Dr. Debove presented his theories relative thereto, illustrating them by numerous cases of hospital patients who had been treated with benefit. Dr. Amanieux, of Paris, published in

1883 an elaborate thesis upon the direct administration of the powder of beef.* The "Bulletin général de thérapeutique" of May, 30, 1882, contains an interesting article by Dr. Dujardin-Beaumetz on the use of powdered beef, and Dr. Broca contributed to the "Progrès médical" in 1882 a series of articles upon *lavage* of the stomach; and the same year the thesis of Robin, on alimentary powders and artificial alimentation, was published. These by no means include all the literature of this subject, but they are among the most important publications.

The comprehension of the utility of artificial and super-alimentation involves the recognition of some commonplace facts—namely: that certain diseases destroy by inanition; that without the constant formation in a certain abundance of the products of assimilation to replace wasted elements and tissues, life can not be sustained; and that in many ailments where life is waning there is often a duplex condition of inanition and disease of such a character as to make it difficult to discriminate whether it be inanition or the disease which is destroying the patient, and which it is that is keeping up the other.

"Inanition," says Chossat, "is the cause of death which marches abreast of and in silence with every malady in which alimentation is not in a normal state; it reaches its term sometimes sooner, sometimes later, than the disease it accompanies, and may become a principal disease where at first it had been only an epiphenomenon."

In pathological conditions, as well as in functional derangements, the appetite may undergo a variety of disturbances, from simple anorexia and nausea to vomiting upon the prehension of food. The two former, though comparatively unimportant when transient, become of grave importance when they persist and can not be overcome.

"Anorexia is not," says Debove, "a banal phenomenon, but a deplorable complication which enfeebles the patient and delivers him, so to speak, without defense, to his malady. Often it is the cause of the disease, it has preceded it, prepared for it a favorable soil, and, the malady existing, it contributes to its maintenance. We often see hysterical subjects seized with disgust for all food, unable to take it in more than insignificant amount, despite the advice of the physician and their own efforts. I have already seen such patients die thus from inanition. Last year I was consulted by the family of a young girl, eighteen years of age, who had taken for several months, and that with difficulty, only a few grammes of nourishment daily. She was reduced almost to a skeleton, without any special lesion of any organ. This appeared to me a case where I should advise artificial alimentation; the parents, however, were frightened at the idea of introducing the sound, and my urgent representations could not change their ideas. The patient continued to refrain from food, and two months later, complaining of greater weakness than usual, with vertigo, was taken with syncope, and died without suffering."

Debove also treated last winter an hysterical woman whose symptoms were of a very serious character, especially spasm of the pharynx. For several months she scarcely ate,

* Read before the New York Medico-Chirurgical Society, March 11, 1884.

* "De la poudre de viande, son administration directe. Ses effets."

and her debility was extreme. It became necessary to introduce food by the sound, progressively increasing the dose. The patient improved visibly, and when at last she had gained sufficiently in weight, and her color had returned, the hysterical symptoms (not the *hysteria*) disappeared.

"Anorexia," says the same author, "is not a phenomenon special to hysterical subjects, it may be observed in a great number of patients; it prepares the ground for various diseases, and notably for tuberculosis. If it is not absolute, if the alimentation is simply insufficient, the physician is less struck by the relation of cause and effect; I know a number of tubercular cases having such an origin. These facts have not escaped authors, but they have interpreted them in a different manner, usually considering that the constitutional malady, still latent, has caused the anorexia; often, according to my own observations, the inverse pathogenesis is to be admitted.

"It is necessary, then, to watch with care the appetite of patients, to insist on their overcoming their disgust for food, and, should this be insurmountable, to resort to artificial alimentation. This method of treatment is applicable in cases of vomiting so frequent as to threaten the patient with inanition, or at least to alter profoundly the general health. Cases of vomiting called 'nervous' are often met with in the hysteric, in which the pathogenesis is very obscure; in consumptives vomiting often occurs, attributed (wrongly, in my opinion) to a mechanical cause, as the compression of the stomach by the diaphragm from paroxysms of cough; both these kinds of vomiting are usually amenable to artificial alimentation."

That the vomiting in phthisis after paroxysms of violent cough is not simply mechanical is shown by the fact that, after food has been artificially introduced into the stomach by the sound, violent spasms of coughing, sufficient to extricate large quantities of mucus, do not dislodge the food.

"Such is the series of arguments which led to the idea of forced alimentation. I admit them to be theoretical, but scientific results are seldom to be obtained, except by the aid of theories one is seeking to verify.

"Super-alimentation differs from artificial alimentation: by the former we propose to nourish the patient, and to prevent the disastrous results of anorexia, or vomiting; in the latter, to introduce into the economy considerable quantities of food, and to increase organic combustion."

Anticipating somewhat at this point the description of aliments used by Dr. Debove, I would mention that the powder of the muscular fiber of beef is usually employed by him, being mixed with milk or hot water, so as to be of about the consistence of cream. Upon the excellence of the powder employed, and its proper preparation when administered, depends, most of all, the success of the treatment.

Other aliments than the powder of beef may be given by the sound, as eggs in beef-tea, milk, etc.

Debove was led to the invention or preparation of powdered beef by the difficulty he experienced in making other articles of nutriment pass through the sound.

The two methods of administration consist in direct alimentation and forced alimentation, by the former method the food being given as any other food would be, with cer-

tain precautions and restrictions; by the latter, the food being introduced into the stomach by the esophageal tube, or sound, this being employed when anorexia, nausea, or vomiting exists to such an extent that nourishment can not otherwise be taken.

The class of ailments to which these methods are suitable are those characterized by emaciation from non-assimilation of food, chronic diarrhœas, nausea, and vomiting, unless dependent on organic diseases of the stomach, and sometimes even then; the vomiting of pregnancy, chlorosis, and anemia, nervous maladies dependent on these, and in various conditions of exhaustion—as after acute illnesses, hæmorrhages, etc.—and, above all, phthisis pulmonalis. I have seen in Paris, and in my own practice at home, all these conditions relieved and cured.

Dr. Debove states that under the influence of super-alimentation—

1. Sweatings cease.
2. Cough and expectoration diminish and then disappear.
3. Patients gain in weight.
4. The strength returns.
5. Physical signs are modified; the signs due to pulmonary indurations or cavities subside, while those dependent on pulmonary secretions disappear. In cases of phthisis far advanced, with pulmonary lesions, the most that can be hoped for is that life may be prolonged. In acute and galloping consumption this treatment is useless. Fever is a contraindication, unless it come on in evening exacerbations.

Debove compares tuberculosis to plants that grow in a certain soil; the soil modified and enriched, other parasitic plants may grow, but they will be different from those that flourished when the soil was not enriched. Dr. Debove, it should be mentioned, is a firm believer in the bacillar origin of tuberculosis. (His lectures upon this at la Pitié, recently published,* are of great interest.) "I may say," says this author, "that by super-alimentation we give our patients strength to resist their malady; and our idea here may be rendered clear by this comparison: when the vine is attacked by the phylloxera, one of the best remedies is to manure the ground well. The parasite is not destroyed, but the plant is endowed with strength to support its harmful action. Super-alimentation is the inverse process of that by which a great number of subjects become tuberculous. It has been for a long time recognized that the cause of phthisis with many subjects is insufficient alimentation, and that this in its turn is of a character positive or relative, as poverty, excess of any kind, diabetes, lactation, etc."

Here, as I shall refer to cases in which artificial alimentation has been employed, I will describe the manner in which it is used. Dr. Debove employs for the introduction of the mixture into the stomach a soft elastic tube, about three quarters of an inch in diameter, and having at the bottom two fenestræ; this part of the tube is twenty-two inches in length, and, although flexible, is of sufficient

* "Leçons cliniques et thérapeutiques sur la tuberculose parasitaire," Paris, 1884.

firminess to introduce easily; at the opposite extremity from that which enters the stomach there is a joint, and the tube after this is of a softer consistence, this part being thirty-nine inches long and terminating in a funnel-like expansion; into this end a large glass funnel is placed, into which the liquid is poured. This tube is a modification by Debove of Faucher's, who invented it in 1878. It may also be used for rinsing the stomach (*lavage*), the principles and methods of which will be given in another place. It can also be used as a stomach-pump, as it acts on the principle of the siphon, and is free from the danger of sucking in the mucous membrane, to which the ordinary stomach-pump is liable. I can not speak too highly of this beautifully contrived tube. It is easy of introduction, it can be used in cases of poisoning, and is the best long elastic tube I have seen for deep injections into the bowel.

The patient, sitting up or recumbent, throws back the head, the mouth wide open; the rounded extremity of the tube is placed behind the larynx and pushed down the œsophagus, the patient at the same moment being asked to make an effort to swallow; the sound introduced into the œsophagus, the joint will be, in an adult, in the mouth. This part of the operation is, the first two or three times, disagreeable enough and may produce retching, threatening to displace the tube. It is necessary to await the subsidence of the nausea before introducing the alimentary mixture. To do this, the funnel is inserted into the extremity of the tube, a little above the head of the patient, if he is sitting up; if lying down, about a metre above the level of the bed; the mixture is then gently poured in. When this has completely entered the stomach the tube is slowly withdrawn. This part of the operation is sometimes, at the commencement of the treatment, accompanied by the rejection of a small quantity of the food; this accident does not occur after a few *séances*, when the sensitiveness of the pharynx is diminished. In withdrawing the sound, not only the funnel but the tube must be entirely empty, as otherwise a few drops of the mixture might enter the larynx. It is not necessary to lubricate the sound before its introduction; it is sufficient to wet it in any liquid, as milk or water. After the third or fourth trial the patient is usually able to introduce the tube, swallowing it up to the joint—the mixture, of course, being poured in by another person.

As regards the danger of accidents from *gavage*, they should not occur; difficulties there sometimes will be. The size of the sound would make its entrance into the larynx by no means easy, still the possibility of this should be taken into consideration. The greatest difficulty usually experienced, aside from the existence of strictures or organic changes, is from spasmodic closure of the pharynx or œsophagus. In such a case force must not be used; the sound must be patiently withdrawn and its reintroduction attempted. Should the spasm persist, which does not often occur, however, the attempt should be deferred.

Debove recommends, after the funnel has been emptied, to pour briskly into it a small quantity of water or milk, to prevent adhesion of any of the food to the tube. Though the quantity be small, if it be lost several times daily it is

of importance, when it is considered that the powder represents four times its weight in beef.

"The question is often asked," says Debove, "if the sound is indispensable, and if super-alimentation can not be employed without it. It seems to me impossible to obtain super-alimentation, continued a sufficient length of time, if one simply forces the patient to *eat*; and precious time is thereby lost."

As I shall show hereafter, the powder can, I think, in most cases be administered *directly*, but not usually in such full doses as when it is given by the sound.

The first case in which Debove employed his method was that of a patient at the Bicêtre, with symptoms of advanced tuberculosis, with large cavities, profuse night sweats, great emaciation, and such weakness that he could sit up but a few hours. Whenever he attempted to eat he was seized with violent nausea, followed by vomiting and cough. The only food he could take was a glass of milk. "I introduced," says Debove, "by the sound, October 1st, a litre of milk, first having washed out the stomach. It was perfectly tolerated, there being neither nausea nor diarrhœa. Afterward, encouraged by this experience, we increased the ration, using the sound twice a day, in these two times administering two litres of milk, two hundred grammes of finely minced raw beef, and ten eggs.

"Digestion was performed well, as there was no diarrhœa, and the perfectly clear liquid which ran out after each rinsing showed the stomach to be acting well. Another proof that the food was being digested and absorbed was that the patient increased in weight on an average ninety-two grammes a day.

"The treatment was followed by other effects no less remarkable; the profuse sweatings ceased; he had suffered from insomnia, and sleep returned and strength was restored to such an extent that our patient, who had remained all day in or near his bed, and who easily lost his breath, could now rapidly ascend two flights of steps of the infirmary, and walk outside a great part of each day. Expectoration was diminished, and the physical signs improved; the cavities underwent no change, but the bronchial râles, diffused throughout the chest, diminished. The results in this case were too favorable for me not to employ the treatment in other cases.

"The second case was one of phthisis, in a much less advanced stage than the first. There were some crepitant râles at the apices of the lungs, especially the left; patient coughed much, had night sweats; no appetite, taking with difficulty a little broth. Forced alimentation, without *lavage*, was resorted to. In a few days it became possible to introduce by the sound, daily, in two doses, 200 grammes of beef, with ten eggs and two litres of milk. There were no untoward results. The average daily gain in weight for twenty days was 192 grammes; the sweats ceased, sleep and strength returned, and the patient could take a long walk without shortness of breath. Râles diminished. At the end of twenty-one days the daily average of urea excreted had increased from 16 to 34 grammes.

"The condition of the third patient was still more unfavorable. He was in the last stage of pulmonary phthisis;

there were large caverns in both lungs, tubercular laryngitis, and an uncontrollable diarrhœa, which had existed for several months. This patient was subjected to the same regimen as the others, except that bouillon was given instead of milk. There was, however, an average loss of weight of 50 grammes daily, though it may have been greater previously.

"In spite of the deplorable state of the patient, many important phenomena were modified: the sweating ceased, sleep returned, and the diarrhœa which had existed for months improved greatly, diarrhœic stools occurring only every three or four days.* Urea increased from 16 to an average of 27 grammes daily.

"One phenomenon especially was observed in each of the three patients. They experienced the sensation of hunger, complained when the sound was not introduced at the usual hour; and this return of appetite led me to hope that the treatment might soon be suspended; the anorexia occurring most easily in patients who have sunk below a certain level, the general health improved, this tends to disappear."

The utility of artificial alimentation was discovered, as it were, accidentally by Debove. He first resorted to it in a case of phthisis with vomiting, because the patient could be nourished in no other way, and, upon augmenting progressively the dose of the food, was surprised to find nearly all the morbid phenomena improve in an unexpected manner.

The benefits resulting from the treatment are evident; they followed close upon it, the patients had been for a long time previously in the hospital under Dr. Debove, and they were not of that class of cases that, coming to a hospital, having been badly nourished, lodged, and clothed, experience a steady improvement from hospital diet. Frequently, in autopsies after death from pulmonary phthisis, lesions so extensive as to be necessarily incurable are often met with. Nevertheless, the lesions cicatrized, and the caseous products eliminated, there may remain a sufficient respiratory surface. The important practical point is not the intensity of the affection at a certain point, but the extent of the lesion. Whatever the condition of the apices may be, if the two lower thirds of the lung respire sufficiently there are many chances of success.

(To be continued.)

MEMORIAL SKETCH OF THE LIFE

OF

J. MARION SIMS, M. D.

By W. GILL WYLIE, M. D.

(Concluded from page 408.)

The first anniversary of the Woman's Hospital was held at Astor Place, January, 1856. It had proved a great success, the lady managers saw the necessity of a larger hospital, and steps were taken to get a charter from the State. Dr. Sims says: "The charter of the Woman's Hospital of the State of New York was obtained in 1857. The Hon. James Beckman was my chief adviser and

* It should be stated that a full dose of subnitrate of bismuth was added to the food.

coadjutor. I spent a great deal of time at Albany that winter, neglecting my private business very much, and leaving Dr. Emmet in charge of the hospital. . . ." He also says: "The most difficult thing and work I have ever achieved in connection with the founding of this Woman's Hospital was the procuring of the land on which the building stands to-day. . . . This I accomplished after a great deal of hard work and political wire-pulling."

In 1856 he had fully recovered his strength and worked steadily at the hospital, and had a large private practice to attend to. In 1861 he went to Europe for the first time. He says: "It was in June that I went, because I needed a little holiday; I had worked too hard, and was tired out; but I went more particularly to investigate the hospital treatment in the Old World."

He first went to Dublin, and there operated upon a patient with vesico-vaginal fistula before Dr. Fleetwood Churchill and others. From there he went to Edinburgh to see Sir James Y. Simpson; he was especially interested in seeing Simpson operate for dysmenorrhœa, but did not think it well done, and formed an unfavorable opinion of the man. Of Mr. Syme he writes: "I saw him operate repeatedly. I have seen great surgeons operate all over the world, operating in my own country, in London and Paris, but I have never seen such operating as his, or such an operator as Syme." He went to London and operated before Spencer Wells and others; the patient died in six days, the first that he had ever lost from this operation. The autopsy showed that the sutures had closed the ureters. He went to Paris in September, 1861. There no one had yet successfully closed a vesico-vaginal fistula. Dr. Johnston introduced him, and soon he was invited to operate by Hugier at the Beaujon, and Nélaton and others were present. Then he operated for Vernier at the St. Louis Hospital. Both cases were successful, and it created a sensation. He also operated successfully for Loguier at the Hôtel Dieu. Soon after this he was invited by Velpeau to go to La Charité and operate on a young woman who had been the subject, so it was said, of seventeen previous operations by Jobert de Lamballes. This case succeeded, making four in succession.

Soon after this he was called to Brussels to operate in the hospitals there. Dr. Sims says: "I then returned to Paris, and was on the eve of going to Vienna, there to show the operation. I forgot to mention the fact that about three or four years before I went to Paris an American surgeon had gone there claiming to have been the author of the operation for vesico-vaginal fistula, and he gave me some credit for having initiated the work, but claimed my speculum and all the instruments as his own. He had set the blade of the speculum at a little more of an acute angle with the handle, and he had put an ivory handle to the tenaculum instead of ebony. He used what was called a button for fastening the silver wire. He had operated only once in Paris. The operation was only a partial success, for very soon after the sutures were removed there was an absorption of the line of union, and the fistula opened and the urine escaped; so his operation was pronounced a failure." A case of vesico-vaginal fistula in a

woman about forty years old, who had been subject to this infirmity for more than twenty years, was brought to Dr. Sims. "She had been seen and examined by many of the leading surgeons of Paris, and pronounced incurable. She had also been seen by the American surgeon who preceded me to Paris three years previously, and who had refused to operate upon her." Dr. Sims hired rooms for her and operated on her in the presence of Nélaton, Velpeau, Civilale, Bonn, Leroy, Sir Joseph Olliffe, Campbell, Hugier, and others. Dr. Johnston gave the anæsthetic. The operation lasted one hour. In one week's time the sutures were removed, being about twelve in number, and the patient was perfectly cured.

Just as he was getting ready to go to Vienna, M. Nélaton sent for him to see a case with him. The patient was brought to Paris; she needed preparatory treatment, and detained the doctor so long in Paris that he did not go to Vienna. This was the celebrated case where Nélaton resuscitated the patient from the influence of chloroform by hanging her head down.

He writes: "Soon after M. Nélaton's case was perfectly cured I returned to America, . . . arriving in New York on the 11th of January, 1862. When I left home, in July previously, there was marshaling of forces North and South for the great civil war. On my arrival in Europe we heard of the battle of Bull Run. On my return I was obliged to provide myself with a passport to come into my own country. When I got home I found that we were in the very midst of a great civil war, and I was made so unhappy by the state of affairs then existing that I made up my mind to take my family abroad, and we sailed from New York in the *Great Eastern* in July, 1862. My programme was to establish my family in Paris, where I thought I would remain six months in the year, in the summer time, and then return home and practice my profession to make money to support them abroad. I was so sure of coming back again to America in the autumn that I had paid for a return ticket on the *Great Eastern*; but, as soon as I got to Paris, I found that the work I had done there the summer before in the hospitals and for M. Nélaton had given me so much reputation that I had no trouble at all in getting business enough to support my family without the necessity of returning to New York for that purpose." He was consulted by many of the nobility. "Thus I was detained abroad quite unexpectedly, but, viewing the political condition of the country and the disturbed state of affairs, I easily resigned myself to the force of circumstances and remained abroad, thinking every year that I would return."

When he began writing his book it was in 1863, while he was at Baden-Baden, where he was attending Lady Hamilton. He fully intended to write a complete work, but changed his mind and commenced a pamphlet on "Sterility." He says: "I went on with the subject, and, instead of its ending in a pamphlet form, it was a book on all the diseases of women, leaving out the subjects of ovariectomy and the accidents of parturition, but embracing everything else in the department of gynaecology. This book was entitled 'Clinical Notes of Uterine Surgery.' It was so radical and revolutionary in all the methods adopted, and so startling in

the results claimed in the treatment of many affections, that the profession did not at first readily accept its teachings; but in a few years it has revolutionized completely the subject of gynaecology, and now it is received everywhere as authority. Before that day and time there was not a professorship of gynaecology worthy of the name connected with any of our medical schools, and now we have professorships of this department in every medical school in the country; and, indeed, throughout the civilized world. I have always said this book was a mere accident, that I never intended to write it, and the book that I went to Baden to write has never yet been written." He remained abroad until 1868, spending most of the time in Paris and London. He performed many operations, and his reputation was as great throughout Europe as it was in his own country. Dr. Sims was a true American, and a believer in the republic. In September, 1868, he returned to New York and took an office at 13 East Twenty-eighth Street, and soon had a large practice. On December 7, 1868, he read a paper "On the Microscope as an Aid in the Diagnosis and Treatment of Sterility," which was afterward published in the "New York Medical Journal."

He remained here for the winter, visited his family in the summer of 1869, and returned to New York in the fall.

In 1870 he took part in organizing the "Anglo-American Ambulance Corps for service in the Franco-Prussian War." He was made its chief.

During the winter 1871-'72 the Medical Board of the Woman's Hospital of the State of New York was reorganized. It would have been an easy matter for Dr. Sims to divide the service with Dr. Emmet, but he believed that it was for the interest of the hospital to add other prominent men to the staff, and it was finally settled by appointing Dr. J. Marion Sims, Dr. Thomas Addis Emmet, Dr. T. Gaillard Thomas, and Dr. E. R. Peaslee.

The beds of the hospital were divided between these four, each having sixteen beds, and they went on duty May 1, 1872. The writer first met Dr. Marion Sims in 1868. At that time he was fifty-five years old, but he was as erect, as active, and as young in heart and mind as a man of thirty-five or forty. My father and mother knew Dr. Sims as a boy, and he could tell me about my mother when she was an infant in arms. And I could tell him of the old campus grounds of South Carolina College, from which I had just graduated. His house was always open to me, but our real acquaintance began in May, 1872, when I came before the Medical Board of the New York State Woman's Hospital as a candidate for the position of interne. Before this the place was had by appointment without competitive examination. I was senior assistant in 1872-'73, when the trouble began which a year later ended by Dr. Sims resigning his position. The hospital was crowded with patients, and its increased fame drew many visiting doctors to the clinics, and many patients with desperate cases applied for treatment. Among the latter were a large number with cancer. At that time the use of antiseptics was not so well understood, and some of these patients, when tamponed after being curetted, occasionally caused offensive odors in the wards. The lady managers believed this would injure the hospital, so they urged

the Board of Governors to pass a by-law prohibiting the admission of cancer cases to the hospital. This some of the Medical Board thought was rather high-handed, and maintained that the medical men of the hospital were the proper ones to decide what patients should be admitted. On account of the crowds of doctors coming to the clinics, the governors passed another by-law allowing only fifteen medical visitors to attend each clinic, and the Medical Board protested against this regulation. At the annual meeting these by-laws were under discussion, and Dr. Sims read a protest and said that unless these by-laws were rescinded he would resign his position as a member of the Medical Board, and he afterward sent in his resignation and it was accepted.

About this time Dr. Sims was the subject of very harsh criticism, and much was said about his rash and reckless operating. His operation for division of the cervix uteri for the relief of dysmenorrhœa and sterility and the great danger in using his so-called sharp curettes were especially commented upon and condemned. During my hospital service of eighteen months I saw much of the doctor, and, after leaving the hospital, was frequently at his house, and often assisted him at operations, but he rarely said anything about his relations with the hospital, and, as was his habit, he rarely made any other than complimentary statements about members of the profession. If he did say anything, he was frank and intense, but, until the open rupture of friendly relations took place between him and his former associates in the Medical Board, he never uttered a word against them, nor would he allow others to do so in his presence. Others did talk indiscreetly and unjustly, but not Dr. Sims. He was too much of a man. He was totally incapable of an under-handed trick. No one who knew him could doubt his courage and his frankness. Neither fear nor selfish policy ever seemed to me to influence him. If he made mistakes, they were honestly made. He had the moral courage, that few men possess, to acknowledge a wrong even in the midst of an excited discussion. His convictions were strong, his feelings intense, and he was very impulsive, but behind these was a noble-hearted and chivalrous nature. It was not he that first brought the matter before the public. It came about in this way. Mr. Henri Stuart, already referred to as having rendered Dr. Sims invaluable aid and advice in starting the Woman's Hospital, wrote a biographical sketch of Dr. Sims and sent it to two medical journals for publication: one the "Virginia Medical Monthly," the other the "New York Eclectic Medical Journal." That published in the "Virginia Medical Monthly," of January, 1877, was revised by Dr. Sims, and all reference to the cause of his resignation from the Woman's Hospital was, at his request, left out. But that published in the "Eclectic Journal" was printed without Dr. Sims's knowledge or consent. It was this article which led to the unfortunate controversy that followed.

Dr. Sims was very decided about anything which he had once taken time to master, but he was as a little child about all matters out of his special work. He was conscious of what he did not know, and for that reason all the more certain and convinced as to what he did know. What he did, he did well. He was always prompt to the minute.

He hurried in going to or getting at his work, but he never hurried in the performance of it. He did not hesitate, but he was deliberate, exact, and threw his whole being into whatever he did. It was marvelous to see the quick, impulsive, playful man settle down to deliberate, exact, unerring work with his instruments. Of all the letters that I have ever seen of his, only one admitted "haste," and not one showed evidence of it. They were always plainly and neatly written, and clearly stated.

It was his consciousness of what he did not know, together with a sincere desire to do well all that he did do, that prevented him from writing more than he did.

In 1872 he wrote an article on "Septicemia in Ovariectomy," published in the "New York Medical Journal," December, 1872, and April, 1873.

On February 6, 1874, he read a paper at Albany before the State Medical Society on "Intra-uterine Fibroids," which was published in the "New York Medical Journal" of April, 1874; and in 1874 he addressed a meeting at Steinway Hall on "The Discovery of Anaesthesia," and later in 1874 he wrote a paper giving Dr. C. W. Long the credit of being the first to give ether and do a surgical operation while the patient was under its influence.

In 1875 he was elected president of the American Medical Association, and delivered an address "On the Prevention and Regulation of Syphilis in America," and in his farewell address at Philadelphia he came out boldly on the code question.

He always lent a willing ear to an enthusiast, and was ready to give any one the credit of meaning right. He knew what it was to be looked upon as an innovator. A plausible story enlisted his sympathy, and many an unworthy person has received both money and encouragement from him. He was too much occupied with his special work to study human nature closely, and he was naturally inclined to credit every one with honest intentions.

In 1877 he decided to go abroad. His reasons were twofold: First, his work here in New York was more disturbing and exacting than his work in Europe, and he got better fees and was not so much overrun with charity cases in Europe. He wanted to complete his book, and it was nearly impossible for him to work steadily while here. He had much more leisure abroad. Second, he wished to start his son alone, in order to make him self-reliant by throwing him entirely on his own resources. He settled Dr. H. Marion-Sims in San Francisco, and subsequently sailed with the rest of his family for Europe.

Before leaving he turned over his business here in New York to me. He returned to New York in 1879, and for a year's time I was with him constantly. He had an immense practice, operating on something over a hundred cases in private practice in a year.

While abroad he became a convert to complete Listerism, excepting the spray, and this he allowed me to use.

One of the three deaths in his practice during that year was that caused by the use of bromide of ethyl, which he reported in a paper before the Academy of Medicine.

He wrote a paper on the "Treatment of Stenosis of the Cervix Uteri," and it was published in the "Am. Gyn.

Trans.," vol. iii, 1878; and in the "American Journal of Obstetrics" for July, 1879, he published his views on "The Treatment of Epithelioma of the Cervix Uteri."

In 1880 his son, Dr. Harry Marion-Sims, returned from California and entered into practice with his father.

Dr. Sims was elected president of the American Gynecological Society in 1880. In December, 1880, Dr. Sims, when tired out from constant work late in the afternoon, gave his seat in his brougham to two ladies, and mounted the box with the driver and rode thus some distance. This little act of gallantry was like Dr. Sims, but very unusual and, in such weather, very imprudent for a man of sixty-nine years. It undoubtedly was the exciting cause that lighted up an attack of pneumonia which nearly cost him his life. Up to this time his physical elasticity and activity were extraordinary for one of his age. And his mind was so receptive and progressive—in other words, so fresh and active—that his last teachings seem to be only fully appreciated by the younger men of the profession. Many that took up his early teachings and made good use of them had passed the age of receptivity before Dr. Sims had finished furnishing new ideas and new instruments, which was up to within a few days of his death.

During the first six weeks of his severe illness I was in constant attendance. For ten days he was in a typhoid and semi-delirious state. For him it was a fearful struggle. He never could bear pain well, but he had no fear of death. He said repeatedly: "If I had my book finished and a few notes of my life written out, I would be ready to die." His mind was so active that it helped to exhaust him. It was wonderful to see how completely the special work of his life, his ambition, absorbed his whole nature. In his delirium he was constantly contriving instruments and going through with operations. He was very willful and difficult to manage. He had often said to me: "Wylie, I have an iron will," and I saw that he was right. If ever a man did have completely the courage of his convictions it was J. Marion Sims. He did not have much faith in drugs, and often we could not make him take them. Even in his delirium he fought against them, and imagined that certain persons were trying to poison him. He willingly took nourishment. For weeks his left lung was completely solidified; but his heart stood the strain, and surprised both Dr. Metcalfe and Dr. Loomis; the latter visited him daily. About the 1st of February, 1881, his temperature, which had never remained any length of time near normal, began to rise steadily higher and higher every evening, and it was plain that in this climate he would not live much longer. We waited for a change for the better in the weather, but it did not come. With his temperature at 102° F., and the weather thermometer at 20°, we took him South. After leaving Washington, every mile that we traveled seemed to improve him, and when he reached Charleston, in his native State, we felt sure that he would get well. His recovery was slow, and, although he never was the same man physically, yet in a year's time he looked well, and was again at work.

He returned North still quite feeble, and went abroad in June.

While abroad he did some work in practice, but spent

the winter in the south of France. He did some writing, but was too feeble to work as usual.

In September, 1882, he came home, much improved in health. His digestion was poor, and he complained of severe pain about his heart. While in San Francisco, in 1877, he had what may have been one or two mild attacks of angina, but they were not repeated. He was examined both abroad and at home by the best experts, but none could find positive indications of organic disease of the heart. We all thought the trouble was functional, or perhaps, in a measure, due to old adhesion about the pericardium, for it had been affected when he had pneumonia.

He was positive that he had serious disease of the heart, and it often caused deep mental depression.

Notwithstanding his poor health, he delivered his paper on "Treatment of Gunshot Wounds of the Abdomen" at the New York Academy of Medicine, and for three quarters of an hour held a crowded house spell-bound by his eloquence and masterly treatment of the subject.

As the weather grew cold in November he went abroad, and spent most of the winter in Rome, where he had a most successful practice among the nobility of Italy. He returned home July 13, 1883. He had regained his flesh and color, but still complained very much of his heart. During the summer he was busy writing his autobiography. In September he came to town, and, with his son, Dr. H. Marion-Sims, was busy at work seeing patients and operating, but he could not do much work without great fatigue, and to us who knew him he was greatly changed.

He intended to sail for Europe early in November, but was persuaded to remain over a week longer to do a very serious operation. On November 13th, at 9 p. m., he went with his son, Dr. H. Marion-Sims, to see this patient. On his return home he coughed considerably, and, after taking some morphine to check it, went to bed. He had a habit of writing down ideas at night, by means of a pamphlet, the edge being placed on paper so as to guide his pencil without a light. At 3 a. m. he was writing in this way, sat up to take some water, and fell back and expired without uttering a word. An autopsy showed that he died of atheromatous degeneration of the coronary arteries.

He was truly master of himself. Vices he had none, not even of the smallest kind. The animal in him was completely under control. His habits and his appetites were always guided by his reason. I have known him, day after day and month after month, rise at seven, take a simple breakfast, consisting of a glass of milk and Southern hominy, bread and butter, and sometimes an egg. At eight enter his carriage, and make a few morning calls on severe cases. At nine return to his office and see patients till one or one thirty; and take a simple lunch of steak, potatoes, etc. At two enter his carriage, visit patients, operate, etc., returning home usually about five or six, write letters, and at seven take a plain dinner of one kind of meat and vegetables. He never took wine nor coffee nor tea, nor condiments of any kind. At the table he was usually talkative and playful, talking about the topics of the day, the theatre, of which he was very fond, etc. After dinner he usually wrote letters and did light work, reading journals, etc., or passed his

time with his family or friends in the drawing-room. About nine thirty he would usually go to his bedroom, where he read or wrote, sometimes lying in bed, until midnight, when he would retire for the night. It was always marvelous to see him so continuously and persistently intent upon his work. When one was familiar with his capacity for endurance, his power of concentration, his unbounded enthusiasm, his deliberate, persistent, painstaking work, backed up by his unselfishness and undaunted moral courage, it was not surprising to witness his success. His motto as a boy was: "Duty before pleasure." Later in life he needed no motto; it had become a habit for him to do what he thought was right. Difficulties, obstacles, and trouble were as nothing to him when once he had made up his mind to act. He went directly at a thing, and he kept at it until it was mastered. It was this great painstaking and persistent work that made things so clear and so definite to him, and enabled him to express his ideas so lucidly. It was also this power that developed his self-reliance and his moral courage, and made his instruments and his methods of operating so near perfect that those who claim to improve or modify them are merely working backward over the same ground that Marion Sims traveled over in perfecting them. His was the inductive method, or working and perfecting method—a developing method. He cleared away complications, and gradually simplified ideas and instruments till they approximated the truth and the best.

He was no idle dreamer; he never wandered into intangible mysticism; there was neither confusion about his work, nor indefiniteness about his aims.

His mind was always aggressive, progressive, receptive, and ingenious. He was a leader—a *practical genius*.

ON

DUPUYTREN'S FINGER-CONTRACTION; ITS NERVOUS ORIGIN.

By ROBERT ABBE, M.D.,

SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

THE one deformity of the hand which has of late most interested surgeons is known as Dupuytren's contraction of the fingers—a deformity which, till his day, had been regarded as irremediable, and which even to-day is so considered, with the vicious contractions from tendon defects, by the majority of physicians and surgeons to whom the scanty literature of the subject is unknown.

It was indeed an inspiration on the part of that surgeon, whose name will always be honored by the association, that enabled him to distinguish between this disease of the palmar aponeurosis and others that resembled it closely. It was the inspiration born of hard work in a man whose energy was never tired, and who seemed to see almost all there was in the new subject at the first discovery.

If we accept the popular idea of the palmar fascia as shown in many text-book illustrations, and spoken of by some authors, we shall conceive of it only as a fan-shaped, fibrous expansion, with its narrow point touching the annu-

lar ligament of the wrist where the tendon of the palmaris longus is inserted into it, while its expansion covers the breadth of the palm at the roots of the fingers, where each of the four bundles into which it has separated divides into two leaflets, attached to the sides of the proximal phalanx of each finger. This, it is true, is the grosser part of the fascia, the glistening fibrous sheet of tissue filling the space over the flexors, the palmar arches, and the muscles. But, if we dissect with care a very lean hand, we find more that concerns us in understanding the disease now considered.

Continuous with the coarse part of the fascia alluded to is a layer or network of the same white fibrous structure—more open, looser, and thinner—covering the outer and inner sides of the palm far beyond the lines of the flexor tendons, and presenting well-marked borders, especially in the fold between the base of the thumb and the index-finger, where it gives a clean, crescentic edge, while over the palmar surface of each finger the same delicate layer continues from its base far out over the tendons toward its tip.

At every point of the grosser and finer parts of this fascia some of the fibers are seen to come toward the surface and terminate in the skin, thus interweaving through the tangled subcutaneous cellular tissue a network which effectually prevents the skin from sliding. The gross white fibers are disposed lengthwise of the palm, but everywhere cross-fibers are seen, delicate but firm, at the web of the fingers, where they constitute the fibers of Gerdy (so called by the French), and in the fold between the thumb and the index-finger. These, as we shall soon see, are often the seat of this malady, though usually the long fibers are first affected.

With this understanding of the anatomy, let us consider the history of the disease. Though Sir Astley Cooper undoubtedly recognized it, it was an unknown disease to the profession until Dupuytren described it, in 1832, giving its clear-cut characteristics as distinguished from contraction of tendons, which to the ordinary observer it resembles, being classed with the "main-en-griffe," or claw-hand, resulting either from traumatism, from abscesses, or from nerve disturbances.

He had the good fortune to dissect a hand so affected, and but a dozen other dissections of marked cases have since been made. They all verify entirely what he found—namely, that there was a tightly drawn band of fibrous tissue, an enlarged fasciculus of the palmar fascia, lifted far above the flexor tendons and drawing down the fingers at one or more points in the palm; that the skin was quite adherent to the band in places; that the tendon itself lay below it, in its normal position, glistening white, and unaffected by the morbid process; and that the bones and joints were entirely free from disease.

He located the disease in the fascia only, and most surgeons agree in this view, though M. Le Fort thinks it a general inflammation of the cellular layer of the subcutaneous tissue, and not of the aponeurosis alone, because, as he says, this contraction runs down on the fingers and is sometimes found on the thumb, while the palmar-aponeurosis tendons terminate practically at the phalanges.

Thus it is evident he shares with many the erroneous

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views of the narrow limits of the fascia. Eulenberg, in 1864, insists that the thumb has no connection with the palmar fascia. Practically the entire palm is very rich in tissue which has for its base white fibrous tissue, and it is impossible to separate this from the simple cellular tissue.

In an excellent review of the subject, eight years ago, Dr. Post expressed the opinion that the sheaths of the tendons were also involved in some cases.

Goyrand's dissections proved that they were sometimes involved at the root of the fingers when the fascia draped over the tendon beyond the arch of exit. The tendon itself in these cases is still healthy, though tied down by external fibers.

Contrary to Dupuytren, Goyrand held the new bridges to be entirely new tissue. It is a matter of little importance, as the microscopical structure, according to Richer (the only observer), shows it to be simply hyperplasia of the white fibrous tissue.

The true "Dupuytren contraction" rarely appears before middle life. This observation, noted by all writers on the subject, is verified by the admirable paper by Dr. W. W. Keen, of Philadelphia, published two years since, in which he reports a collection of 105 cases from every possible source, and finds the average time of development is at forty years. It is rare in women—not oftener than one case in twelve.

From a clinical point of view, the cases present themselves about as follows: The sufferer, otherwise in good health, notices a slight hardness of the palm of one hand—either a small kernel, like a split pea, fixed beneath the skin at the center of the middle transverse crease, or else a hard cord, at the same site, in the line of the tendon of the ring-finger. It is usually painless, and perhaps for years scarcely excites curiosity until the ring-finger or little finger, as the case may be, resists being straightened out with the others.

Several nodes and bands may show themselves, or there may be only one from first to last. The band can early be felt beneath the skin before it can be seen. Then in time it forms a ridge, and finally, after progressing and shortening for from two to twenty years, it appears like a tight string to a bow, extending from near the wrist to the proximal joint of the finger, which it draws over until it approaches the palm. The skin is lifted from a quarter to half an inch from its former level, adheres to the band in parts, is puckered and wrinkled, and dimpled where fibers of attachment hold it back against the drawing tendency of the band toward the wrist.

It is with great difficulty at first that one can convince himself that this is not a tendon below the skin; indeed, Mr. Adams, who has given our best English *résumé* upon the subject, says he cut at first many times, believing he was cutting tendons. I have been asked by one of our most eminent surgeons, while my knife was just ready to cut the band, "if I was *really* sure I was not cutting the flexors."

Three convincing proofs are these: The flexor tendons are bound down at the metacarpo-phalangeal articulations by such arched fibrous sheaths as *can not* stretch to allow them

to rise from their beds, while it is exactly at this point that the fascial bands are most prominent, and certainly rise from half to three quarters of an inch above the tendons.

Secondly, the tense cords are not always in the line of the tendons, sometimes lying between instead of over them and forking at the web of the fingers by the tightening of the fibers of Gerdy, so as to take firm grip on the neighboring sides of the two fingers, while in some cases rigid cords appear on the thumb or in the web between it and the index, entirely out of the course of any tendon.

Thirdly, when the bands have been divided and the fingers stretched, the patient has the power at once to put the flexors in action and close a tight fist. Could he do this if the tendon had been cut?

The malady affects, by choice, the ring and little fingers of either hand. In Keen's collection of 105 cases, the ring-finger suffered in 88, the little in 77, the middle in 45, the index in 13, the thumb in 9.

Within from six months to a year or two, however, after the first hand is seized, the opposite one is affected in a large majority of cases; and by preference the malady fixes itself on the corresponding part.

Throughout the literature of the subject I find little reference to the associated pains, and, though I am aware that many cases are without it, there are many where it is an important symptom.

CASE I.—In the first case that came under my notice, in 1881, the successful termination of which I reported in the "Illustrated Quarterly of Medicine and Surgery," in 1882, there had been contraction of the left little finger for seven years, and of the right ring-finger for one year. The latter had given the patient increasing pain for a few months before I saw him, so that he was obliged to give up work, and, as I then reported (and repeat here, as it illustrates a point in the theory of the ætiology of the disease), "for two months this band in the right palm had been so constantly in pain that he could not move this hand up to touch his head without almost unbearable suffering, and at times, especially if the palm was struck, it was much worse." (See Fig. 1.)

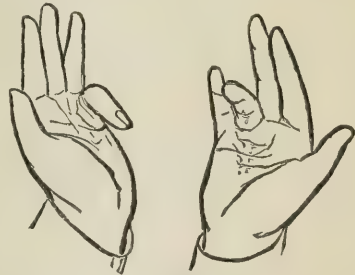


FIG. 1.

As the left finger had shown prior trouble and was drawn most into the palm, I operated on it two weeks before the other by subcutaneous sections. To the patient's great surprise and my own, the right hand ceased to be painful immediately after the operation on the left, and he found on the following day that he had been able to lie at night with his right hand behind his head and sleep on it without pain, which he had been un-

able to do for many months. He could also swing this hand over his head, brush his hair with it, and do various things that for months past would have caused him great suffering; and yet this hand had not been touched. I shall refer again to this case again after speaking of others. It is sufficient to say, I subsequently operated on the right stiff finger also, and the patient remained perfectly cured and resumed his work as a cloth-cutter six months afterward.

I will ask you to follow me now in three more well-marked cases, and then speak of some others in a group.

CASE II.—G. C. H., aged fifty-eight, a cloth-cutter, showed Dupuytren's contraction of both hands, with other extraordinary symptoms.

He had been a cutter for twenty years. Fifteen years ago he first noticed contraction of the left ring-finger, and thought it had come because he helped squeeze the large shears with this hand in cutting very thick cloths.

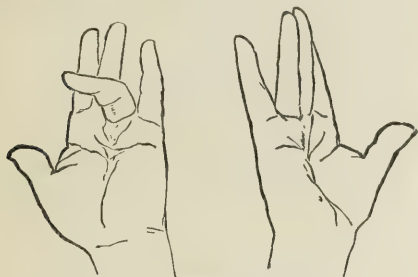


FIG. 2.

The contraction steadily increased, but was painless at first. Very soon afterward the right ring-finger began to draw up, and about the same time he began to have pain in the back, below the loins, which has grown worse for fifteen years.

He continued to work till three years ago, when his lame back and contracted finger prevented it.

One year before I saw him he applied to Dr. Seguin for the distress in his back, the fingers being a very secondary matter. Dr. Seguin gave him medicines and applied various counter-irritants to his back, even making repeated cauterizations with the actual cautery. He then tried packing his dorsal spine with ice-bags, keeping him recumbent for a fortnight, believing there was a spinal lesion, probably a pachymeningitis. It gave no relief. Electricity, static and galvanic, was then applied by Dr. Gibney. Continued faithfully for a long time, this gave a little relief to the back pain.

The case seemed intractable, and Dr. Seguin and Dr. Gibney referred the patient to me, in view of the case I had published, to see if I thought the contracted fingers were a factor in the nervous disturbance. I had little doubt it was so.

On examination, I found his worst complaint was of the rhachialgia. He complained of great pain, as of subacute rheumatism, in the lumbar and two or three lower dorsal vertebrae, most marked on rising from a seat or on attempting to stoop. To use his own words, "he could not pick up a thousand-dollar bill if it was on the floor before him, because of the pain and stiffness." Every motion he made bore witness to the truth of his statements. He had never had rheumatism or gout, nor had his father or mother.

The ring-finger of each hand was contracted, as shown in the cut (Fig. 2); the left more so than the right. On the right the middle finger was also somewhat involved. The skin was

much puckered over the contracted fascial band from the second phalanx to the upper part of the palm. The band was very distinct and unyielding.

June 24, 1882.—I operated under ether, dividing the left band by six subcutaneous cuts, and the right by four. These rectified the attitude of the fingers perfectly, and I put them on straight splints. The subcutaneous cuts healed immediately, but the patient had considerable pain in the fibrous structures about the palm and fingers, which became thickened, tender, and somewhat stiff in their new position. It was some weeks before the subacute inflammatory stiffness subsided.

Meanwhile, what about his back? Even so soon as a day or two after the operation he spoke of an amelioration of the pain. It improved daily until, on July 4th—the tenth day—he expressed the greatest delight and surprise that his back hurt him but little, and he "could now stoop and pick up that thousand-dollar bill, or anything else." I tried him with a small object, and he could stoop freely.

For two years he had not been able to dress himself on account of the pain, and now, on the tenth day, he said, except I had his fingers on splints, he could dress himself.

I have watched him for nearly two years. In fact, he has haunted me fortnightly at my clinics and office, to express his gratitude and show his continued health.

All pain entirely left him, and has never returned. The fingers were somewhat rigid as regards complete flexion for nearly a year, but have now been perfectly restored, and he can shut them tightly down into the palm.

CASE III.—L. H., aged fifty-seven, a Boston gentleman, was kindly referred to me by Dr. Fordyce Barker for double Dupuytren contraction. His mother had some contraction of the fingers, coming on after the age of fifty years, for which, he remembers, she used to sleep with a rubber ball in her hand to prevent further contraction. She also had some trouble in one knee, which became stiff in a flexed position. She had never had gout in her feet.

The patient's father never had gout or rheumatism. Nine years ago there began a contraction of his palms, first in the right hand, involving the ring and middle fingers, very soon after of the left also. It was usually without pain. The left ring-finger gradually drew down, until three years ago its tip touched the palm. Two years ago Dr. Twitchell, of Keene, N. H., made one subcutaneous cut of the band in the palm and released it partially, so that it stood as now shown (Fig. 3), and it had since kept all that was first gained.

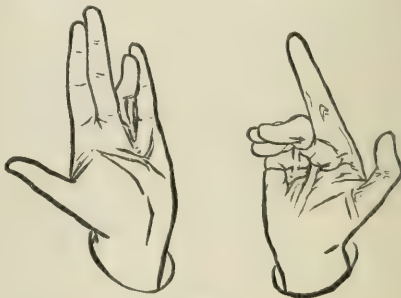


FIG. 3.

The right hand had slowly progressed until every finger was involved as follows:

One sharp crescentic band stretched tightly in the web between the thumb and the index-finger from base to base, with

a spur running up on the first joint of the thumb. This held the thumb rigidly in toward the palm. Another band, inserted into the skin near the second joint of the index, followed up the palm in the line of the flexor tendon, to the thenar eminence, with a spur into the center of the palm. A solid band extended from the base of the second phalanx of the middle and ring fingers straight up the center of the palm nearly to the annular ligament, and one ran from the palm to the little finger.

On the left hand one rigid band stretched to the ring-finger, and one between the bases of the thumb and the index.

The deformity was very great, and, besides, there had been several times yearly an attack of painful subacute swelling of these fingers, especially at the joints, keeping him awake nights, and relieved by no anti-rheumatic remedy except the French preparation of Dr. Laville.

The patient had therefore come to brood over the discomfort and unsightly appearance, and was giving up his favorite pastimes of driving, whist, and Shakespearean recitations. He could not sweep in a trick of cards, grasp a goblet of water, put on a glove, etc., and insensibly it had produced a decided impression on his spirits.

On February 26, 1883, I operated under ether on his worst hand only. The bands were all cut at points of tension, beginning nearest the wrist, and repeated until the fingers were released. Adhesions to the skin and deeper parts prevented any one cut from doing all the good, so that when all the bands were released I found I had made twenty-five subcutaneous cuts. (See Fig. 4.) The hand was dressed antiseptically and invested with plaster of Paris, all the fingers being extended. The patient began to come out of the anæsthesia before I had dressed the hand, and involuntarily closed his fist with the greatest tightness, showing the flexors to have been untouched by the cutting.

The local pain from the unwonted extension was severe for two days, but lessened gradually until the tenth day, when an increase suddenly took place resembling subacute rheumatism of the various knuckles. He took colchicum and iodide of potassium, and his favorite "Laville," but without benefit. One or two fingers had to be released from all restraint before it was endurable, the patient having tossed in bed several nights in spite of morphine in moderate quantities.

The cuts all healed at once, but a firm, resisting state of the whole fascia investing the hand ensued, with oedema, joint swelling, and pain, but no cellulitis or dermatitis. Sedative lotions and anointing gave him ease. Brief immersion in hot water made them temporarily more supple, and was repeated several times daily. The splints were lightly bound on at intervals.

It was two weeks before the hands began to quiet down. The fingers retained a somewhat stiff, fibrous investment, which prevented flexion at first, but by degrees this has disappeared and excellent flexion has resulted.

It is now a year and two months since, and the patient has kept every particle of extension gained by the sections,

with an almost complete return of the power of flexion. He is able to make a fist, bringing the tips of all but the little finger into the palm by voluntary effort.

The joint of the little finger had been so surrounded by old dense fibers that I preferred not to cut deep among the tendons, so it was but half released. But now the slight flexion looks more natural than a straight little finger.

Quite as important as the local change is the fact volunteered by the patient's wife, and corroborated by him, that he has not been so well in general for many years as since the hand was released.

There has been a gain in flesh, his nerves are quiet, his mind is serene, he sleeps well at night, and never has pain in the hands.

CASE IV.—F. S., a gentleman of sixty years, whom Dr. James Knight very kindly referred to me with contracted little and ring fingers of each hand. Fifteen years ago he sustained



FIG. 4.—THE RIGHT HAND OF THE PATIENT WHOSE HANDS ARE SHOWN IN FIG. 3. The dotted lines indicate the contracted fascial bands, and the heavy cross-lines the twenty-five subcutaneous sections.

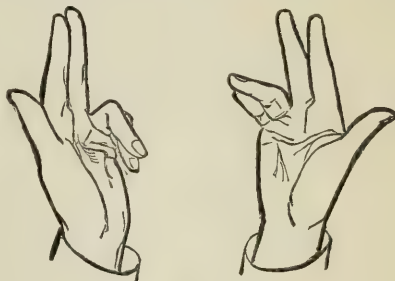


FIG. 5.

a slight cutaneous laceration at the middle flexion-crease of the right little finger while helping to carry a trunk. Within two months a slight buncy swelling just above it and a little drawing of the finger were noticed. Dr. Sayre, the patient said, had tried to straighten it by a posterior splint and rubber band, without benefit. Within the next year the little finger of the opposite hand took on the same action at the same point, and the ring-finger of the right hand also, but not until five years later did the ring-finger of the left hand take on its contraction. (See Fig. 5.)

In 1871, 1874, and 1876 the bands were divided subcutaneously at one or two points each by Dr. Hammond and Dr. Stephen Smith, but no splints were used and recontraction took place.

There has never been pain in the parts. The patient neither inherits nor has acquired rheumatism, gout, or other taint. Each hand presents a dense subcutaneous band in the palm, running from near the wrist to the neighboring sides of the ring and little fingers, very symmetrical, though the left one draws down most. No amount of pulling can extend them farther.

February 1, 1884.—I divided the bands by Adams's subcutaneous method in each hand, the patient being etherized. On cutting the bands one can appreciate that, although so much like a tendon in appearance, it is a tense, ribbon-like band, that the point of the knife quickly cuts through. I always prefer passing the knife between the skin and the fascia and cutting downward.

At the web of the fingers the cross-fiber bound the fingers rigidly together, but yielded beautifully to subcutaneous cuts, letting the fingers gape widely apart. After the bands disap-

peared two of the joints were found to have a moderate extra-capsular fibrous thickening, and had to be forcibly extended. Twenty cuts were necessary in each palm. The hand was dressed antiseptically, and rigidly extended on posterior splints.

He suffered acute pain for many hours after on account of the severe stretching, but was easy directly I released the fingers. I continued pretty full extension, however, for a week, during which time there ensued the same condition I had seen in each of the other cases—to wit, a general hyperæmia of the deeper tissues, especially about all the knuckles of the hand; a firmness of the aponeurotic layers, and puffiness and tenderness of the joints, all going to make up a close resemblance to sub-acute rheumatism.

I believe this to be solely due to nerve irritation, and not, as supposed by other observers, to be an attack of rheumatism.

After two weeks the patient used his splints only at night, and two weeks later only at intervals of two days.

It is now eleven weeks since the operation, and this much has been accomplished: The two ring-fingers can be extended by voluntary effort perfectly straight, and one can be already flexed so as to nearly touch the tip to the palm. The other only flexes to a right angle with the palm. The little fingers flex and extend imperfectly, but all are gaining, and, when the dorsal fascia softens enough to give the flexors a chance to bring the fingers over, they will do their part.

The trouble following operation is not in the flexors, but in the fibrous tissues generally.

(To be concluded.)

THE TREATMENT OF DIPHTHERIA AND CROUP

BY LARGE DOSES OF BICHLORIDE OF MERCURY.

By WILLIAM M. THALLON, M. D.,

BROOKLYN, N. Y.

(Concluded from page 405.)

These ten cases constitute all the clinical material I have to present to the society this evening bearing on this question. I had one other interesting case of diphtheria in which I used the bichloride treatment, but it was some two years ago, and, as I did not keep notes, I hardly can quote it correctly from memory. The child recovered. And I may say that I have not lost any case from croup or diphtheria since adopting this method of treatment, and the same, I believe, is the experience of Dr. Skene. I have had several cases of sore throat marked by the abruptly limited line of inflammation which is so characteristic of diphtheroid conditions, as distinguished from the wide-spread area of redness in general pharyngitis and tonsillitis, but, as they never showed any true membrane, I will not recount them. Whether the fact of their never having done so was due to their being promptly brought under the influence of bichloride of mercury I shall leave for the society to determine.

I may say just here that, when called in to attend a case of diphtheria or croup, I make it an invariable rule to make the relatives or attendants take a tonic mixture of bichloride of mercury and tinct. ferri chlor. for a few days as a prophylactic measure. It seems to me that we can thereby guard them, to a certain extent, from the risk of infection.

On reviewing these cases it must be admitted that, with the exception of the first, the second, and the ninth, they are

tolerably mild in type. We have not had any severe epidemic of diphtheria among us, fortunately, within the last three years, and I at once frankly acknowledge that the value of the bichloride-of-mercury treatment will not be established until it has proved efficient to cope with such an epidemic. It is very difficult in a discussion like the present, indeed I may say impossible, to draw a positive therapeutic conclusion from treatment used in sporadic cases only. Still, enough has been shown, I think, to warrant the claim that this mode of treatment is well worthy of a more extended trial. And the hopelessness and confusion of all other methods of treatment are such as to make us eagerly resort to one which is so plausible as this, and one that already has so much clinical evidence in its favor.

That is all I claim for it, and my principal object in bringing the matter before the society was to invite a more extended trial of the method in question.

If we turn for a few moments to a consideration of the rationale of the method in question, we enter a very interesting and very unsettled domain. In the application of any remedy to a given disease we are always much influenced, either consciously or unconsciously, by our conception of its pathology.

Now, in the first place, I am a strong believer in the essential identity of the pathological processes which are called in our text-books diphtheritic and croupous. I believe that the differences which exist between them are not essential, but are incidental to the different conditions as to age, anatomical locality, habit, etc., under which they manifest themselves. I shall therefore simply allude in my further brief remarks to the diphtheritic process.

I believe it is generally acknowledged by authorities that there are two modes under which the diphtheritic process manifests itself, namely, the inflammatory and the septic. These two undoubtedly shade into each other at all stages, and in some cases it is impossible to state which element is the more pronounced, but the division is a useful clinical one.

Under the inflammatory type may be classed more especially the ordinary membranous croup of children, the cases of pharyngitis and tonsillitis with diphtheritic exudate, and some of the sporadic cases of diphtheria. Under the septic type come those cases which we meet when a virulent epidemic is prevailing, and such sporadic cases as our first one, narrated above, where a well-marked source of septic infection can be clearly traced. And it is to the second class, the septic type, that the cases of sloughing sore throat of scarlet fever are most nearly allied.

In the inflammatory type there are certain pathological indications which mercury seems peculiarly to meet. I think it will be disputed by no one that, whatever else is undecided about the general inflammatory processes, it is a fact that in these states there is a marked increase in fibrin or its constituent elements in the blood. And, because of this excess of plastic material in the blood or accompanying it, we invariably find that wherever the inflammation becomes localized—whether on a serous membrane, as in pleurisy or meningitis, or on a mucous membrane, as enteritis, or pharyngitis, or cystitis—there is at a particular stage an exuda-

tion of plastic material. Now, if there is a settled fact in therapeutics, it is that the free and prompt administration of mercury lessens such plastic exudate.

It is now nearly a hundred years since Dr. Robert Hamilton brought before the notice of the profession the value of mercury as an aplastic antiphlogistic, and since then the weight of clinical evidence in support of this claim is overwhelming. The oft-quoted and plainly visible example of the exudate in iritis lessening under mercurialization is entirely to the point. Even though it be admitted that iritis is generally, though not always, syphilitic in its origin, I can not see how that detracts in the least from the value of mercury to lessen general inflammatory exudation because it has proved competent to lessen a specific inflammatory exudation. I think, then, we are warranted in saying, in reference to the diseases in question, that bichloride of mercury lessens the formation of exudate.

It has another action closely connected with the foregoing; up to a certain point it promotes excretion. That action is not confined to one gland, but is common, so far as I know, to the salivary glands, the mucous glands, the kidneys, the intestinal glands, the pancreas, and the liver. The measure to which glandular excretion is being excited is a very important one, and the process has to be very closely watched. It is probable that the action of the bichloride of mercury is destructive to certain elements in the circulatory fluid, and forms with them a chemical compound which in its turn, being irritant to the glands, calls for elimination. If these large doses were given in health, it is likely that they would prove highly injurious by attacking normal tissue elements essential to the continued welfare of the economy. Such is the case in the examples of acute and chronic mercurial poisoning we meet with. But in acute general inflammatory disease, if the foregoing is true, we have a far less highly organized product than the simplest tissues, and the mercury attacks this first. This exactly corresponds with what we know of the use of mercury for chronic conditions, notably syphilis.

I can easily see that the drug, if heroically pushed after the subsidence of the acute stage, would be capable of doing great harm. We have a convenient clinical indication of the extent of its action, its destructive action especially, in the effect produced on the salivary glands. It is well known that it is difficult to salivate with the bichloride of mercury compared with the other mercurials, especially calomel. This entirely corresponds with my experience in giving these heroic doses, for, although I was carefully on the watch in the foregoing cases for the least sign of salivation, in not one did any sign of it appear, and this I think is very remarkable.

With reference to its action on other glands, I am quite convinced that it increased the secretion of the mucous glands, especially of the respiratory tract, causing freer expectoration and loosening the exudate by maceration. I was somewhat surprised, however, by the apparently slight action these doses had on the liver. I confidently expected to have to exhibit opium in combination with the bichloride to lessen the tendency to diarrhœa and abdominal pains; but such was not the case; on the contrary, in several cases I

had to order an enema or a laxative to produce sufficiently free movements from the bowels.

I do not wish to dogmatize, but I am inclined to think that the bichloride of mercury in amounts varying from one tenth to one grain in the course of the day is *the* treatment in the inflammatory type of the diphtheritic diseases, especially in the beginning. Of course, I do not for a moment lose sight of the paramount importance in all cases of good hygiene and food; and, further, other drugs, as alcohol, opium, quinine, etc., can be combined with the bichloride if the indications for their special use arise. But, to constitute a fair trial of the method in this type of diphtheritic diseases, the bichloride must be given in at least that minimum dose, and in the way and with the precautions I have insisted on.

If we turn now to the more markedly septic type of the disease—the malignant cases of diphtheria—what I have to say is offered merely as a suggestion. The clinical evidence I have presented to you has been almost exclusively confined to the first type of the disease—the inflammatory type—so that my further remarks are mainly speculative and theoretical. The septic cases of diphtheria are those which prevail in epidemics, and we have a great additional factor to consider. The patients die from the effects of a septic poison, and the bodies undergo unusually rapid decomposition. All of these facts point to a process closely allied to putrefaction and accompanied by, if not due to, the presence of certain morbid organisms. So much will be granted by nearly all competent observers to-day, even although we are not prepared to pin our faith to a particular bacterium or specific micrococcus.

Now, the question arises whether you can hope to prevent, or arrest, or retard such a process by a germicide. At present our knowledge is far too slight to say positively whether this is possible or impossible, but I think the following facts are highly suggestive. It has been proved by reliable experimenters, both abroad and at home—notably by Robert Koch in Germany, and Sternberg in the United States—that if you take a liquid like beef-juice, swarming with bacteria, and add $\frac{1}{30000}$ part of bichloride of mercury, these organisms speedily cease their activity; while if you add half as much again ($\frac{1}{60000}$ part), they not only cease their present but their future activity. The fluid thus sterilized will fail to excite putrefaction in any other organic solution.

Now, taking this fact as a basis, the calculations I made were to determine how much bichloride would be necessary, if added to the blood, to sterilize it. The amount of blood is given by Dalton as about 12.5 per cent. of the total bodily weight, while Foster gives it as about 8 per cent. I think Foster is more nearly correct, but let us assume it as 10 per cent. But I would remind you that this is the proportion in health, and is subject to large daily variations, which may become permanent variations in disease. In an adult of 150 lbs. the blood weight we assume at 15 lbs., and, taking the $\frac{1}{30000}$ part of that, it would give us about 5 grains of the bichloride to sterilize the blood, or the $\frac{1}{30000}$ part (= $3\frac{1}{2}$ grains) to arrest decomposition. In other words, each pound of blood would require $\frac{1}{6}$ grain of bichloride to sterilize it, or $\frac{1}{2}$ grain to keep it sweet, provided

the diphtheritic decomposition and the ordinary decomposition are arrested by the same percentage of the antiseptic.

But there is a very important consideration which must not be lost sight of, and it is this: that the experiments of Koch and Sternberg relate to decomposition of organic fluids *outside* of the body. Now, it is well known that living tissues offer a certain amount of resistance to the invasion of these organisms. The onset of the hosts of invasion may be so severe that they overpower such resistance, and then the cells die and form the pabulum to nourish new hosts of invaders, and, if this process goes on far enough, the individual dies. But until the cell is dead it continues to offer some resistance. Now, in the tissue which we are considering—the blood—there are two elements—the corpuscles and the fluid medium in which they circulate. Both of these resist to a very considerable degree the process of decomposition due to putrid organisms—the corpuscles in common with all other living cells in the body—the serum because of its antiseptic properties. I have not time to more than allude to the extended researches of Sir Joseph Lister, in which he conclusively shows that the serum, so far from being prone to decomposition, will resist it to a degree greater than some of our weaker antiseptics. And the same is true of the other fluid constituents of the body (relatively so much greater in amount than the blood), their contained salts tend to keep them antiseptic.

The element in the blood of these inflammatory conditions which is so liable to decomposition is the fibrinoplastic material so largely in excess, and we have seen the action of the bichloride in lessening its formation and eliminating it when formed. I therefore believe that the amount of antiseptic that will have to be added to render the blood aseptic in the living body will be far less than is needed for the same fluid—outside of the body—offering no resistance to the process of decomposition. It is impossible at present to make any estimate, even approximately, as to how much these two factors respectively contribute to this end; but that they *do* so contribute is, I think, certain.

Taking up one of my individual cases (No. II), how much bichloride of mercury was at any one time in her system? We know the quantity given. The question, then, arises as to how rapidly it was absorbed, and in what form and how rapidly eliminated. On these points we are much in the dark. It seems proved that elimination is much slower than absorption, and that the drug, therefore, has a cumulative action.

Thus, in experiments on dogs, Mayençon found the drug continued to be excreted four or five days after it ceased to be given. And, in some experiments on himself, the above-named author found that elimination was not continued till all the drug was discharged. For, "forty-eight hours after the cessation of a mercurial course, when the urine was free from the metal, the iodide of potassium was exhibited, and the urine of the next twenty-four hours contained an abundance of mercury, which continued to be present in diminishing quantities for seventy-two hours." This is entirely in accord with clinical experience, where deposits of metallic mercury have been known to take place from such accumulation. Now, in Case II the weight was about 40 lbs.; that

would make the weight of blood about 3 lbs. according to Foster, or 5 lbs. according to Dalton, or, according to our assumption of 10 per cent., about 4 lbs. In order to sterilize that weight of blood would require: bichloride of mercury $\frac{1}{3}$ gr. for each pound, = $1\frac{1}{3}$ gr. in all. To totally arrest any septic process would require: bichloride of mercury $\frac{2}{3}$ gr. for each pound, = $\frac{2}{3}$ gr. in all.

Now, in the course of five days and a half she took over two grains, and in the course of twenty-four hours half a grain. Now I would like to ask if it is so entirely out of the way to suppose that, at one time during this period, there was not enough bichloride of mercury circulating in the blood—either in a free state or in a state of organic combination—to arrest, or at least modify, the septic process?

I am sorry I have nothing more exact than these guesses to offer the society on these points. But, as I said before, I shall base the claim I make for the bichloride of mercury treatment in diphtheria and croup on the clinical evidence, especially in the first or inflammatory type of the disease. And I can only ask from the society in the discussion the fullest expression of opinion, both for and against the method of treatment. But I venture to suggest that the use of bichloride of mercury in large doses in the treatment of diphtheria and croup will give better results than any other method of treatment known at present.

THE TREATMENT OF GONORRHOEA.*

By S. C. GORDON, M.D., PORTLAND, ME.,

SURGEON TO THE MAINE GENERAL HOSPITAL; LECTURER ON DISEASES OF WOMEN IN THE PORTLAND SCHOOL FOR MEDICAL INSTRUCTION.

It may be fair to assume that a majority of cases of gonorrhœa that come under our observation are more or less protracted beyond the time ordinarily described as the natural course of the disease. It is certainly true that it is very much more protracted than a majority of patients are content to wait, and therefore we find many of them following the advice of almost any druggist or friend who has some "sure cure." What is most wanted is a remedy that aborts the disease, or relieves the discharge and inflammatory results in less time than is usually done when the disease has passed beyond the primary stage.

From a very large experience during my army life, I became convinced that the routine treatment of mild injections and the balsams and other nauseating mixtures had very little influence toward shortening a disease that, if left to itself, under favorable circumstances, would last but three or four weeks.

I have been reminded recently, by an old sergeant of one of the companies of my regiment, that in the city of New Orleans, where the regiment was stationed for a few weeks, one morning he presented at surgeon's call upward of twenty-five men of his own company who were more or less ill from "ladies' fever," for that was the name by which it was familiarly known.

I tried the abortive treatment with a very strong solution of nitrate of silver, and also with the weak solution, very frequently repeated, until bloody discharges were pro-

* Read before the Portland Clinical Society, January 3, 1884.

duced, with occasional good results, but more often with a failure; and the last state of the man was far worse than the first. The balsams disturbed the digestion and destroyed the appetite, so that the remedy was worse than the disease, and I preferred that the soldier should eat and keep his strength, even if the gonorrhœa seemed to be neglected, although, in fact, improvement was about as fast in the one case as in the other.

That experience about convinced me that any such plan as was ordinarily recommended in the literature of the day did little more than nature did; so for several years, until three years ago, I ordinarily put the patient upon a simple cleanly plan, which embraced the use of warm-water injections sometimes medicated with some opiate, bathing the penis in very hot water for a long time at short intervals, diluting the urine by drinking plenty of water, and using a good nutritious diet, cutting off stimulants as a rule. By this plan I could in a majority of cases promise a cure in three or four weeks, rarely in less time.

Three years ago this very month a gentleman came to me having had gonorrhœa about two weeks. His domestic relations were such that he was extremely anxious for a speedy recovery. The inflammatory process had ended, but the mucous membrane was swollen and engorged from the exudate and from passive congestion, while the urethra felt like a whip-cord from the submucous deposit that had taken place. The disease had extended the entire length of the canal, and the bladder was suffering in consequence, so that dysuria was a constant symptom.

Previous to that time I should have been content with prescribing an anodyne and diuretic and have used as many placebos as my ingenuity could devise. Certainly several weeks must elapse before such a case can be cured under such a plan of treatment as that. My daily experience with the hot-water douche in similar conditions of the genital organs in the female suggested that, if I could pass a current of hot water over this diseased urethra, as I would inject gallons of hot water into the vagina for cervical endometritis, vaginitis, and pelvic exudate following peritonitis and cellulitis, surely I could accomplish much more than by the ordinary small syringe. The suggestion was father to the act, and, telling my patient what I proposed, and he assenting to anything that promised speedy relief, I filled a fountain-syringe with a quart of water at a temperature of about 100° F., and, with one of the small tubes introduced into the urethra as high as I could push it, I injected it and allowed it to run back into a vessel. It ran back by the side of the tube, washing the urethra as far as it was thrown up. The first trial acting as a sedative, or at all events giving no pain, I filled the fountain again, this time increasing the temperature about 10°. I found that, by asking the patient to strain a little as if urinating, the urethra could be sufficiently dilated to allow the water to pass into the bladder, and in that way I filled and refilled the bladder several times, allowing him to pass it off himself each time. The relief afforded by this second injection was immense, and from that moment the dysuria ceased to be an element of much trouble.

This douching I continued twice each day, and in three

days I had the pleasure of seeing my patient practically relieved of *all the unpleasant symptoms*. A very slight discharge remained, but a repetition of the same treatment for a few days more completed the cure. From the first day of the injections no anodyne was needed, and no medicine was given. The chordee was relieved, the burning sensation removed, and the patient happy.

Within the year following I had an opportunity to make other trials of the treatment, and in each case I was more than satisfied. To any one familiar with the rapid melting away of pelvic exudate, under the use of the large douches of hot water, it will not seem strange that the effect upon this mucous membrane should be almost magical. The cure was so absolutely complete that the ordinary dragging along, consequent upon more or less stricture, was entirely absent.

Finding such good results in cases where the primary stage had past, I determined at the first opportunity to try the effect in a case at the commencement, if I could see it early enough.

The case was not long in coming, being of only twenty-four hours' duration when I first saw it. I administered two quarts at the first sitting, waiting a few minutes between the injections. This time I used water as hot as the patient could *possibly bear it*, at times being obliged to stop on account of the severe heat. If it did not actually scald the parts, I felt that it would be more sure to abort the disease, this being the object I had in view. I continued this twice each day, and at the end of the third day the patient told me that all discharge had ceased. A sudden demand in a business way took him from my care, and I did not see him for two weeks, when he came back saying that two or three days after leaving me, having no means of using the injections, he had a slight discharge, which continued three or four days and then disappeared.

The next case came under my care at the end of the third day from the beginning. I had but little hope of doing much in the way of aborting it, and the result proved my fears to be well founded. I tried the hot water faithfully for three days, and while, unlike the strong solutions of nitrate of silver, it did no harm, I am sure it did not change the course of the disease: so I suspended the treatment, using only a mild course until the inflammatory process was ended, then returning to the douche with good, yet not such rapid, results.

The next two cases were in quite young men, one of whom I had treated for a previous attack by the old expectant plan. I am sure that by that plan he was several weeks in getting well, although it was a very mild case. Within the past year he came to me with a well-developed gonorrhœa in the early stage. I saw him first on Friday (as I find by reference to my note-book), again on Saturday, giving the injection twice each day, and on Monday morning he came in saying: "I am well, and have been since Saturday night."

The other patient was an old offender (although young in years), having had three previous attacks, one of which lasted a year. He had been under all sorts of treatment, however, before consulting any regular physician. His for-

mer experience had taught him by this time to seek competent advice early, and I saw him within twenty-four hours. I administered the first injection myself, and, as he had a friend with him who was a druggist and room-mate, I prescribed a fountain-syringe and sent him away with orders to carry on the treatment with the aid of his friend, which he did successfully within a week. I only fear that his elation at the prospect of getting out of it so easily may tempt him to break some of his good resolutions made in former hours of sorrow.

In conclusion, I can give only a brief summary of the cases in which I should expect the most satisfactory results from this mode of treatment:

1. I should hope, and confidently expect, to abort, in from three to five days, a large majority of cases that were treated as soon as the first well-known symptoms appeared. In these cases I use the injection as *hot as it can possibly be borne*—three or four times in twenty-four hours; at least two quarts should be used at each time.

2. In cases of ten days' or two weeks' duration (at which time the inflammatory process has ended), I believe the most of the trouble can be relieved in a very few days. The suffering so characteristic of that stage will usually pass away in twenty-four hours. In many of these cases I have been enabled to force the water into the bladder and then allow the patient to pass it away immediately. This has a good effect upon the dysuria, relieving it almost at once. In this class of cases, also, the water should be very hot.

3. Where two or three days have elapsed before the patient is seen, I do not expect so much as in the former classes. Even here much may be done by the external use of very hot water and the careful, gentle use of the fountain-syringe, filled with *simple warm water*, at about the temperature of the body, or less. This promotes cleanliness, and is a sedative.

I would add that my three years' experience fully justifies me in commending this plan to the attention of the profession.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Cinchona Barks Pharmacognostically Considered. By Friedrich A. Flückiger, Ph.D., Professor in the University of Strasburg, etc. Translated from the Original Text, with some Additional Notes, by Frederick B. Power, Ph.D., Professor of Pharmacy and Materia Medica in the University of Wisconsin. With eight lithographic plates and one woodcut. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 101. [Price, \$1.50.]

An Address delivered before the Broome County Medical Society, at its Annual Meeting, October 3, 1882. By Charles B. Richards, M.D., President.

A Short Manual for Monthly Nurses. By Charles J. Cullingworth, M.D., M.R.C.P., Physician to St. Mary's Hospital, Manchester. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. viii-79.

Elements of Pharmacy, Materia Medica, and Therapeutics. By William Whitla, M.D. (Q.U.I.), Physician to the Belfast

Royal Hospital, etc. With lithographs and woodcuts. Second edition. London: Henry Renshaw, 1884. Pp. 602. [Renshaw's Manuals. Price, 10s. 6d.]

The Relation of Animal Diseases to the Public Health, and their Prevention. By Frank S. Billings, D. V. S., Graduate of the Royal Veterinary Institute of Berlin, Member of the Royal Veterinary Association of the Province of Brandenburg, etc. New York: D. Appleton & Co., 1884. Pp. ix-446. [Price, \$4.]

Diagnosis and Treatment of Diseases of the Heart. By Constantin Paul, Member of the Academy of Medicine, Physician to the Lariboisière Hospital. Translated from the French. New York: William Wood & Co., 1884. Pp. vii-335. [Wood's Library of Standard Medical Authors.]

The Diseases of Children. A Handbook for Practitioners and Students. By Armand Sempé, B.A., M.B. Cantab., M.R.C.P., London, etc. New York: G. P. Putnam's Sons, 1884. Pp. xvi-352. [Price, \$1.75.]

Eczema and its Management. A Practical Treatise based on the Study of Three Thousand Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. Second edition. New York: G. P. Putnam's Sons. Pp. xii-344. [Price, \$3.]

The Influence of the Commercial Prosperity of the Country on Epidemics. By Harvey E. Brown, M.D., Surgeon, U.S. Army. [Reprint from the "New Orleans Medical and Surgical Journal."]

Funchal auf Madeira als Heilstation geschildert von Dr. Julius Goldschmidt. [Reprint from the "Wiener med. Wochenschrift."]

Cooper Medical College, San Francisco. Annual Announcement, Session of 1884.

Phantoms of Life. By Luther Dana Waterman. New York: G. P. Putnam's Sons, 1883. Pp. 95.

The Veins of the Brain and its Envelopes. Their Anatomy and Bearing on the Intra-cranial Circulation. By William Browning, M.D., Brooklyn, N. Y. Brooklyn: F. B. O'Connor, Jr., 1884. Pp. 79.

Spinal Irritation: Probable Cerebral Origin of the Symptoms sometimes classed under this head. By G. L. Walton, M.D. [Reprint from the "Boston Medical and Surgical Journal."]

Dental Jurisprudence. By Richard Grady, D.D.S., Baltimore. [Reprint from the "American Journal of Dental Science."]

Fourth Annual Report of the New York Home for Convalescents.

Thirteenth Annual Report of the Managers of the Buffalo State Asylum for the Insane.

Fifteenth Annual Report of the Trustees of the Willard Asylum for the Insane.

Report of the Secretary of the Treasury on the Administration of the National Quarantine Service and the Epidemic Fund. February, 1884. Washington: Government Printing Office, 1884.

Answer of the Supervising Surgeon-General to the National Board of Health. March 12, 1884. Washington: Government Printing Office, 1884.

Sulla Meningite Cerebro-spinale Epidemica. Nota di G. B. Ughetti, Prof. di Patologia Generale a Catania, etc. [Reprint from the "Giornale della Reale Società Italiana d'Igiene."]

Clinical History of a Case of Recurrent Dropsy of the Left Middle Ear, etc. By Charles H. Burnett, M.D., etc., and Charles A. Oliver, M.D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Transactions of the Massachusetts Medico-Legal Society. Vol. I, No. 6, 1883.

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THE MEDICAL SERVICE ON BOARD PASSENGER SHIPS.

On several occasions we have referred to various defects in the provision made by ship-owners for the medical care of their passengers, as well as to their failure in too many instances to treat their medical officers in such a manner as to encourage competent men to enter their service. In Great Britain, thanks in great measure to the efforts of Dr. Irwin, the shortcomings of the Transatlantic steamship lines in these matters have secured some attention, and it is to be hoped now that, so far as this country is concerned, Congress will see the importance of passing some such bill as the one now before it, the full text of which we print in this issue of the journal.

We understand that the bill was framed by a committee appointed for the purpose at the last meeting of the American Public Health Association, consisting of Dr. A. N. Bell, of New York, chairman, Dr. J. N. Quimby, of New Jersey, Dr. Henry O. Marcy, of Massachusetts, Dr. Henry H. Smith, of Pennsylvania, and Dr. Albert L. Gihon, of the navy. The bill may be thought to be defective in not precisely defining the minimum size of the hospitals, but some discretionary power may well be vested in the medical officers in regard to this point, especially in the light of certain considerations brought forward by Dr. Gihon in his paper entitled "Thirty Years of Sanitary Progress in the Navy," to which we lately alluded. According to Dr. Gihon, permanent bulkheaded hospitals or sick-bays should be done away with on board men-of-war, for the reason that they are always too small when there are many on the sick-list, while they are too large for efficient and economical operation when the list includes but few. It is in the hope that medical officers endowed with discretionary power may see fit to adopt his views with regard to "flying hospitals" that we regard the omission of a precise definition of the space to be allotted to the hospital on board ship as not wholly a defect of the bill.

The objections that Dr. Gihon has urged against permanent hospitals on board men-of-war apply with scarcely less force in the case of merchant vessels carrying passengers between Europe and this country, in view of the usual disparity between the number of passengers on the eastward and on the westward trip. The "flying hospital" is designed to separate a space, of such size as may be required under particular circumstances, by means of canvas panels, as is explained in the paper we have referred to.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

In view of the apparent gusto with which certain correspondents of out-of-town publications have predicted that the collection for the year 1883 would show such a falling off from

those of former years as to evince a growing apathy on the part of New Yorkers in regard to the support of the private hospitals of the city, it is particularly gratifying to be able to record the actual facts as they are set forth in the annual report of the association, just made public. It appears from this document that the sum collected for the year 1883 amounted to \$43,062.74, or more than \$12,000 in excess of the collection for the preceding year, and only a little over \$1,000 less than the largest collection ever made, that of the year 1880, which latter sum included a special gift of \$5,000. A like special gift was received in the only other collection that approaches that made in 1883. In the light of these facts and of the commercial depression that marked the close of the year, the time when the collection was made, the association seems abundantly justified in interpreting the result of its labors for the year as decidedly encouraging.

But it is not alone in the matter of the gross sum collected that an inference is to be drawn implying that the people of New York are not flagging in their interest. Looking over the list of sources from which the contributions were derived, we notice a great many that have never figured before, including a large number of churches and various financial and other organizations, as well as several of the different branches of trade. On the other hand, it is quite rare to find in the lists a blank opposite the name of any former contributing organization. The association may derive satisfaction also from the small proportion of "designated" contributions, being those accompanied by a specification on the part of the contributor of the hospital to which he prefers his gift to go. This indicates a degree of confidence in the association's plan of dividing the money that could not be felt except for good reasons.

THE WAR OF THE LOUISVILLE COLLEGES.

THE Louisville Medical College, for that is the institution against which Dr. Yandell's criticisms, recently alluded to in this journal, were directed, seems as far as possible from resting content to let those criticisms pass unnoticed. In a supplement to the "Medical Herald," Dr. E. Miller, the secretary of the faculty, denies that the Louisville Medical College issues beneficiary certificates, or that it attempts to allure young men to take its course. Dr. Miller adds, however: "For the last session we did write to a number of students, whose names had been furnished us by their friends, offering to take them at reduced rates, as we had a perfect right to do, as is done by every college in the land, and for the following good and sufficient reasons"—and then goes on to give excuses for the college's having on a particular occasion done what he has denied that it is its practice to do, the main point brought out being that the university was at the same time endeavoring to get the students of the college away by offering to take them for only the matriculation and graduation fees, and "did take some of them for nothing."

Concerning the right of a college to set its own estimate on the value of its instruction we have nothing to say, and concerning the provocation under which the college may have acted

when it sent out the letters alluded to by the writer in question we have only to say that one can not whiten his own face by blackening his neighbor's; but we do not believe that the writer has the slightest warrant for the assertion that "every college in the land" resorts to such practices. So far as the profession is interested at all in this matter, it is to know whether or not the Louisville Medical College has done what Dr. Yandell charges it with having done, and the college can not better its position in the slightest by invective or by attempting to bring extraneous issues into the foreground. Appended to the supplement we allude to there is a list of the resident medical officers of the City Hospital for the past fifteen years, giving the standing of each man, as determined by a competitive examination before a board appointed by the Charity Commissioners, together with the name of the institution from which he received his degree. This list shows very much to the credit of the Louisville Medical College, and, if we take it by itself, we can not wonder that the college should feel pride in its publication. We do not understand, however, that the controversy turns upon the quality of the instruction given in the two institutions. The point seems to us to be this: That, if either of them has pursued the policy of ransacking the country for students in the way depicted by Dr. Yandell, it has acted dishonorably and disgustingly, and that the consequences of such a policy, if it is persisted in, can not fail to lower the tone of the profession in the region in which the college adhering to it has any influence.

MINOR PARAGRAPHS.

THE HEALTH OF NEW YORK.

THE most notable feature of the report of infectious diseases for the week ending April 15th is the increase in the number of cases of typhus, nineteen, against four for the preceding week. There is reason to believe that this increase was not owing to a spread of the disease as it already existed in New York so much as to a fresh importation, since most of the new cases have been encountered in the region east of the Bowery, and the patients are for the most part immigrants lately arrived from Hamburg or Glasgow. In each of the weeks covered by the comparative statement given elsewhere in this issue of the journal there was but one death from the disease. There was also a decided increase in the number of cases of measles, nearly double that for the previous week. On the other hand, there was a satisfactory diminution of diphtheria, and the solitary case of small-pox reported the week before has not yet given rise to any spread of that disease.

NEWS ITEMS, ETC.

THE HEALTH OF PROVIDENCE.—During the month of March, as we learn from the report of the City Registrar, Dr. Edwin M. Snow, the deaths in the city of Providence, R. I., amounted to one hundred and fifty-nine, being twelve fewer than in February, and thirty-four fewer than in the month of March, 1883. The percentage of deaths from zymotic diseases was 16.58.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—A correspondent who signs himself "A Graduate" tells us that the honor-men at the recent commencement should have been mentioned in the following order: R. H. Sayre, G. de N. Hough, R. J. Carlisle, N. S. Jarvis, L. R. Morris, A. C. Bridges, H. H. Young, S. Stark.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 15, 1884:

DISEASES.	Week ending April 8.		Week ending April 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	4	1	19	1
Typhoid Fever	6	0	6	1
Scarlet Fever	89	13	78	17
Cerebro-spinal meningitis	6	6	6	6
Measles	63	13	107	15
Diphtheria	47	18	39	22
Small-pox	1	0	0	0

YELLOW FEVER is reported to be prevalent again in Vera Cruz, Mexico.

THE BAYVIEW ASYLUM IN BALTIMORE.—A reorganization of the medical service of this institution has been undertaken, by which its resources for clinical instruction will be more fully made use of by the faculties of the University of Maryland and the Baltimore College of Physicians and Surgeons, each of which, we understand, is to appoint a resident medical officer.

THE STATUS OF THE MIDWIFE, LEGAL AND PROFESSIONAL, was made the subject of discussion at the last meeting of the Society of Medical Jurisprudence and State Medicine, Dr. J. H. Fruitnight having read a paper with that title. A resolution was passed opposing the establishment of a college of midwifery.

THE NEW YORK CANCER HOSPITAL.—The State Senate has passed a bill incorporating this institution.

THE BOARD OF HEALTH has appointed six temporary assistant sanitary inspectors, to do the work of vaccination for one month, on account of the necessity of employing the regular assistants in the detection of cases of typhus.

"COFFEE-ESSENCE," an article used for making coffee in some of the cheap coffee-houses of the city, has been analyzed by order of Dr. Cyrus Edson, of the Sanitary Bureau, and it is said that many specimens have been found to have been grossly adulterated, with dried blood, for example, and that the manufacturers will be prosecuted.

SCARLET FEVER SPREAD BY MEANS OF ICE.—A newspaper report from Camden, N. J., states that scarlet fever has been spread in Gloucester City by children having eaten ice which had been used by an undertaker on the body of a person dead of the disease.

RECENT PARIS THESES.—Among the recent "Thèses de Paris," as we learn from our French exchanges, are the following: On Hydatid Cysts of the Muscles, by M. Bourel-Roncière; On the Treatment of Genu Valgum by Osteoclasis, by M. Delarue; On Sudden Death from Cerebral Edema in Old People suffering with Interstitial Nephritis, by M. Deschand; On the Chief Causes of Death in Chronic Interstitial Nephritis, by M. Gaudetroy; On the Health of Workers in the Cotton Industry, by M. Kneri; On Tenonitis, or Inflammation of the Retro-ocular Cellular Pouch, of Rheumatic Origin, by M. Puechagut.

A SANITARIUM IN THE ADIRONDACK REGION is in a fair way to be opened before long, a site having been chosen near the village of Saranac, in Franklin County. It is announced that the fund raised thus far, largely through the efforts of Dr. E. L. Trudeau, amounts to \$5,300. Under Dr. Trudeau's management the proposed institution is sure to be well carried on, and we trust that further contributions may soon be made to the fund. They may be sent to Dr. Trudeau, at Saranac Lake, or to Dr. A. L. Loomis, of New York.

EXAMINATIONS FOR COLOR-BLINDNESS have been ordered to be made of the men employed on the trains of the Ontario and Western Railroad.

THE MEDICAL SOCIETY OF THE COUNTY OF RICHMOND is reported to have taken the extraordinary step of passing a resolution prohibiting any member from rendering professional services to any person against whom another member has a bill for like services which he is unable to collect.

THE FOOT-AND-MOUTH DISEASE.—The Lower House of Congress has passed a resolution directing the Committee on Agriculture to investigate the origin of the outbreak reported to have shown itself in Maine.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 6, 1884, to April 12, 1884:*

BAILY, ELISHA I., Colonel and Surgeon. Ordered to report to the commanding general, Division of the Pacific, for duty as medical director of that division and of the Department of California. Par. 4, S. O. 78, A. G. O., April 4, 1884.

SUTHERLAND, CHARLES, Colonel and Surgeon. To be relieved from duty in Division of the Pacific, and to report to the commanding general, Division of the Atlantic, for duty as medical director of that division and of the Department of the East. Par. 4, S. O. 78, A. G. O., April 4, 1884.

SMITH, JOSEPH R., Major and Surgeon. Directed to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held in Washington, D. C., on the 6th of May, 1884, and, on the adjournment of the association, to return to his proper station (San Antonio, Texas). Par. 7, S. O. 81, A. G. O., April 8, 1884.

BAILY, JOSEPH C., Major and Surgeon. Leave of absence extended three months. Par. 8, S. O. 83, A. G. O., April 10, 1884.

STERNBERG, GEORGE M., Major and Surgeon. Ordered to be relieved from duty in Department of California, and to report to commanding general, Department of the East, for assignment to duty.

MOSELEY, EDWARD B., Captain and Assistant Surgeon. Ordered to be relieved from duty in Department of the East, and to report to the commanding general, Department of the Columbia, for assignment to duty. Par. 4, S. O. 78, A. G. O., April 4, 1884.

WILCOX, TIMOTHY E., Captain and Assistant Surgeon. Ordered to be relieved from duty in Department of the Columbia, and to report to the commanding general, Department of the East, for assignment to duty. Par. 4, S. O. 78, A. G. O., April 4, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending April 12, 1884:*

BATTLE, S. W., Passed Assistant Surgeon. Ordered before Retiring Board.

WELLS, H. M., Surgeon. Detached from Naval Hospital, New York, to report at bureau for special duty.

HIBBETT, C. T., Passed Assistant Surgeon. Placed on waiting orders.

STEWART, H., Surgeon. Placed on retired list from April 10, 1884.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, April 21st:* New York County Medical Association; Medico-Chirurgical Society of German Physicians.

Tuesday, April 22d: New York Dermatological Society (private); New York Surgical Society; Jersey City Pathological

Society; Medical Societies of the Counties of Putnam, N. Y., Hunterdon, N. J., and Litchfield, Conn.

Wednesday, April 23d: New York Pathological Society; American Microscopical Society of the City of New York.

Thursday, April 24th: New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association (private); Brooklyn Pathological Society.

Friday, April 25th: New York Society of German Physicians (private); Yorkville Medical Association (private).

Saturday, April 26th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

PLINY A. JEWETT, M. D., OF NEW HAVEN.—Dr. Jewett died in Providence, R. I., on Thursday, April 10th, after a brief illness, of pneumonia. He was born in Hampton, N. Y., in 1816, and received his literary education in Trinity College, Hartford, and his medical education in the medical department of Yale College, from which he was graduated in 1839. For many years he was attending surgeon at the New Haven Hospital, and for twelve years he occupied the chair of obstetrics in the medical department of Yale College.

During the war of the Rebellion he was surgeon of volunteers, and his services were appropriately recognized by the Government.

For the past few years his attention has been given to medico-legal matters, and his visit to Providence was for the purpose of testifying in a trial then in progress.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held December 4, 1883, W. M. POLK, M. D., President, in the chair.

INSTRUMENT FOR OCCLUDING THE URETER.—Dr. J. B. HUNTER presented an instrument which was devised by Dr. Silbermann, of Breslau. He was indebted for it to Dr. W. T. Bull, of this city. The President of the society had made a suggestion about a year ago that, in cases of disease of one kidney, by pressure one ureter could be occluded for diagnostic purposes. The instrument presented was intended to accomplish this object, and it could be used in either the male or the female bladder. Dr. Silbermann had been led to make the device by having a case of tumor of the bladder in which the growth so pressed upon one ureter as to produce occlusion. The instrument consisted of a catheter with a fenestra near the end, on the right or left side, according to whether the right or left ureter was to be occluded. At the fenestra was a rubber balloon, covered during the introduction of the instrument by a slide, and when in position distended by quicksilver introduced through the catheter by means of a syringe. Thus a heavy artificial tumor, as large as a small egg, was made to shut off all the urine coming from one kidney by pressure exerted upon the ureter where it entered the bladder. Experiments upon living dogs, which were afterward killed, showed that the ureter was thus completely occluded. In the human subject the quantity of urine secreted for a given time was measured and was found to be twice as great when the instrument was not used as when it was used.

Dr. H. J. GARRIGUES thought it more likely that the urine

was shut off by pressure of the artificial tumor upon the ureter along its course in the walls of the bladder than by occluding its vesical orifice.

The PRESIDENT was much interested in this subject, and had been experimenting for about six months in making an instrument for occlusion of the ureter, either in the male or the female, and he at present had hopes of success. The instrument consisted of a double sigmoid catheter for introduction into the bladder, between which and a rod with a bulb, passed up the vagina or rectum, the ureter could be closed so perfectly that, in experiments on the cadaver, it had been dilated to five times its natural diameter with injections of water without overcoming the occlusion. The distended ureter could be distinctly felt through the rectum above the point of compression. He at present had a case of bloody urine, evidently due to a lesion of one or other of the kidneys, and he expected by means of this instrument to be able to determine from which organ the hemorrhage proceeded. Bloody urine had been passed constantly during six months.

Dr. A. JACOBI thought it would be justifiable to introduce the finger into the female bladder and make pressure upon the ureter sufficiently long to collect urine from the opposite kidney, and thus determine from which organ the blood came.

The PRESIDENT said that a method which required dilatation of the female urethra was objectionable because of incontinence following, perhaps requiring an operation for its relief. It seemed to him that a vesico-vaginal fistula might be made, and a catheter introduced into the ureter, collecting the urine first from one kidney and then from the other, and that this procedure was always justifiable for purposes of positive diagnosis before undertaking so severe an operation as extirpation of a kidney for purely diagnostic purposes. In performing lithotomy, Sir Henry Thompson had made a sufficiently large opening into the male bladder to admit the finger. This had been done, as he understood, in about twelve cases, and without serious results. Such being the fact, surely the same procedure might be resorted to in order to catheterize the male ureters, especially in view of the inefficient methods now at our disposal for making a diagnosis in cases of unilateral renal disease.

VAGINAL HYSTERECTOMY.—Dr. P. F. MUNDÉ said that about six weeks ago he presented to the society a uterus which he had removed through the vagina for cancer of the cervix. The patient at that time was doing well, and she had continued to do well since, leaving the bed on the fourteenth day and the hospital about the sixth week. She considered herself well three weeks after the operation. Since then he had done a similar operation on another patient, but not with such fortunate results. The case presented some points of difference from the first, to which he would briefly allude. The patient was thirty-one years of age, and had had one child several years before. She was of small stature and had a narrow vagina. The uterus was movable and could be drawn down to the vulva, but it was not so freely movable as in the first case. The disease was a carcinoma of the cervix, which had very slightly encroached upon the wall of the vagina. The physician who had had the kindness to send the patient to him said that he saw her six months before, when there was a laceration of the cervix, with granular degeneration of the anterior lip, which, however, was not believed to be malignant in character. When Dr. MUNDÉ saw the patient there was no question as to the nature of the disease. The degeneration had extended as high as the internal os, but the body of the organ was not believed to be involved. At first the case seemed to be a simpler one than the former, and it was his intention only to remove the cervix; but, on the strength of the other case, which had given such brilliant results, he put the question to the patient and her husband as to

whether they were willing to take the chances of removal of the entire uterus, should it be deemed advisable at the time of the operation. They gave their consent. He was assisted in the operation by Dr. Garrigues, Dr. Chamberlain, Dr. Lee, Dr. Gerster, and the house staff. The operation proved much more difficult than in the first case, and for two reasons, namely, narrowness of the vagina, and less mobility of the uterus, the ligaments of which were tense and inelastic. The ligature was first applied to the left broad ligament by Dr. Gerster, and, as was thought, was tied very securely; but, when the ligament was divided, very slight traction upon the ligature caused it to slip. No hemorrhage, however, followed, and he proceeded to apply the ligature to the right broad ligament in sections, after which the left was also secured and ligated in sections. Perhaps an hour had elapsed, and it was then noticed that considerable oozing had taken place into the peritoneal cavity, more than had been appreciated, and the question arose as to where it came from. As he had just remarked, hemorrhage had not occurred from the ligaments. The Sims's speculum, which had been used, was removed, and immediately there spurted up two streams coming from arteries of the size of a darning needle which lay in the gaping incision in the posterior vaginal wall. The oozing from the raw surface between the vaginal wall and the peritonæum, as much as three inches in diameter, must have been considerable during the operation, but it was impeded by the pressure of the speculum, and was also hidden from view thereby. The two bleeding points could be secured only with difficulty, and the ligatures included considerable of the tissues surrounding the arteries. He brought the peritoneal and vaginal edges together with sutures, a flanged drainage-tube was inserted, and cotton packed lightly into the vagina. The pulse had flagged considerably, but hypodermic injections of whisky were given, and the patient regained consciousness, but died at the end of forty hours. The temperature rose just before death to 104° F. It was believed that the patient died from the shock and loss of blood during the operation, the greater portion of the hemorrhage being from the two arteries concealed, and partially compressed, by the speculum. There were certain points in the case from which we might derive instruction in vaginal hysterectomy. First, in cases in which the vagina was of small size, the patient not having borne children, or from other cause, it should be dilated gradually by means of the colpeurynter before proceeding with the operation; and, secondly, the uterus should be rendered freely movable several days or more in advance by gently dragging it down with a volsella. Heretofore he had employed the sharp needle in passing the ligatures through the broad ligaments, with the result of badly pricking the finger used as a guide. Hereafter he would employ the aneurysm needle and avoid this accident. It was possible that the dorsal position, with or without the use of perineal and vaginal retractors, would prove the better one for the operation, if the intestines did not fall too much into the posterior cul-de-sac.

Dr. GARRIGUES inquired of Dr. MUNDÉ why he regarded the case as one of epithelioma of the cervix.

Dr. MUNDÉ admitted that a microscopical examination had not yet been made, but he had seen so many cases of carcinoma of this part, while there had been but few cases of sarcoma of the cervix recorded, that he had no hesitancy in pronouncing the disease carcinoma in the present instance.

Dr. GARRIGUES said that at the last meeting of the society he referred to the fact of having himself been cognizant of three cases of sarcoma of the uterine cervix occurring within a year, and it was probable that more cases would be found if a microscopical examination were always made in so-called cases of epithelioma.

Dr. C. C. LEE desired to know upon what ground Dr. Mundé proposed to pursue hysterectomy in these cases, assuming that the disease was not sarcoma. He had had an opportunity to see the operation done in the present instance. It was done well, and he did not mean to express doubts as to the propriety of it in this particular case, but he wished to be more convinced than he now was of the value of an operation which at best was exceedingly difficult to perform, was extremely dangerous to life, and, if it did not prove immediately fatal, was done for the removal of a disease that was almost certain to return and destroy life in a comparatively short time.

Dr. MUNDÉ replied that the question was one which was at present agitating the surgical gynecological world: As to whether we were justified in extirpating the cancerous uterus under any circumstances, even with the prospect of the patient's recovering, for in most of the cases the disease would recur. But, inasmuch as permanent relief was thus sometimes given from cancer, grant that the operation was a justifiable one, in what class of cases should it be done? With regard to the two cases related, in the first one the disease was not found to extend above the cervix, and he must admit that excision of the cervix might have been sufficient. In the second case, he had not examined the specimen to know whether the disease had invaded the body of the organ, but this point could not be decided during life, and, in view of the success obtained in the previous case, he had felt justified in giving the patient the benefit of the doubt by removing the entire organ. In future he would limit the operation to cases in which the disease had extended up as high as the internal os, and in such cases he believed that Schroeder's method should not be undertaken, for, as shown by Schroeder's own statistics, the disease almost always returned within two years.

Dr. MUNDÉ said that if the malignant disease did not involve the vaginal walls, and extended as high up as the internal os, he would, as the question at present stood, continue to do vaginal hysterectomy, but he would emphasize the importance of mobility of the uterus and a well-developed vaginal canal.

Dr. LEE said that inasmuch as in all probability in ninety-nine cases in a hundred the disease would return, and since removal of the cervix alone would often tide on the case for a number of years, he had thought it important to know exactly under what circumstances Dr. Mundé would prefer to do hysterectomy. Several cases had been reported to the society in which removal of the cervix by means of excision and the actual cautery, and also by other means, had prolonged life several years; one had been reported by Dr. Noeggerath of a patient who was living six or eight years after the operation. The disease had extended up to the internal os.

Dr. MUNDÉ remarked that we were all familiar with the operations of Sims, Simon, and others, but the cases in which these operations for partial removal of the cervix were suitable seldom came under notice early enough for the radical operation, and there would thus still be some cases left for vaginal hysterectomy when the disease was detected in its beginning.

Dr. LEE remarked that, if Dr. Mundé could differentiate sarcoma from carcinoma positively, he would admit that he would have an indication for hysterectomy.

The PRESIDENT asked Dr. Mundé if, supposing he had a case exactly in the condition which he had described, in which all the conditions surrounding the uterus were exactly such as he had pointed out as allowing of total extirpation of the organ, he did not think that just as good results might be obtained by dissecting up the peritonæum anteriorly and posteriorly on the body of the uterus to about midway between the internal os and the Fallopian tubes, and amputating at that point. By this

method the whole of the cervix and half the body of the uterus would be removed.

Dr. MUNDÉ said that he could not speak of the results of the proposed operation from personal experience. Schroeder latterly had done essentially the operation suggested by the President, and the percentage of mortality had been very small, but there had almost invariably been a recurrence.

The PRESIDENT said that, assuming that when the disease spread from the cervix, following its usual course through the lymphatics in the base of the broad ligaments, to the lateral pelvic glands, it always manifested itself by rigidity of the tissues in this region, the conditions pointed out by Dr. Mundé as justifying extirpation—viz.: a uterus movable, capable of being drawn down to the ostium vaginae, with no infiltration around the cervix or vagina—showed, of course, that the disease in such cases was confined to the cervix. But, granting this, it seemed to him that the operation he had just suggested as a substitute would as effectually relieve a patient as removal of the entire organ would. He did not mean to say that the disease could not involve the glands in the side of the pelvis without perceptibly thickening them, but he was simply presenting the case in the most favorable light for hysterectomy. If it were not taken for granted that the lateral pelvic glands were free from infiltration, the operation which Dr. Mundé proposed to continue to do would be useless.

Dr. MUNDÉ would challenge the statement that carcinomatous infiltration of the lymphatics around the cervix necessarily produced rigidity.

Dr. HUNTER believed that any infiltration which fixed the uterus contraindicated its removal. He believed it would be impossible, were that body fixed, to remove it safely. He had records of a number of cases in which removal of the lower half had not yet been followed by a return of the disease. The longest period was eight years, the next six years. Statistics of German operators went to show that out of a large number of cases of hysterectomy recurrence took place about as certainly and as rapidly as after the removal of the cervix only.

INTRA-UTERINE FIBROID TUMOR; REMOVAL BY THOMAS'S SPOON-SAW.—Dr. LEE related a case as follows: The patient was single, aged forty-three years; had been sick fourteen years. Her catamenia appeared at thirteen years of age. She had two normal periods, and afterward was always irregular. Eleven years ago she had hæmorrhage almost constantly, which confined her to bed. The flow was very profuse. Occasional hæmorrhages continued until the autumn of 1882, when the bleeding again became constant and profuse. During January and February, 1883, she had no hæmorrhage, but in March it recurred with great violence, the patient being confined to her bed until August. During July she had pelvic peritonitis. She was admitted to the hospital September 15, 1883. When, at this time, she came under Dr. Lee's observation, she was too weak to sit up. Bleeding occurred with every change of position. On careful examination, evident signs were found of an intra-uterine tumor in the upper segment of the uterus, and two extra-uterine or subperitoneal fibroids, the organ being of about the size of the womb at the sixth month of gestation. Every attempt was made by nutritious food and tonics to improve the general health preparatory to an operation. Iron was not given, through fear of increasing the hæmorrhage. Under this treatment the patient improved rapidly, so that a more thorough examination was undertaken in November, when the tumor of the size mentioned was found in the upper segment of the uterus, its attachment being to the posterior wall, and apparently sessile. When recently an operation for its removal was undertaken, an attempt was made to dissect up the attachments by means of the scissors, but the situation of the pedicle was such

that it was impossible to do so. Thomas's spoon-saw, with the shaft curved to a suitable form, was then employed, and with it Dr. Lee was able to detach the tumor with the loss of not more than six ounces of blood. The tumor weighed between one and two pounds. A bilateral incision had first been made in the cervix, and the tumor was pulled down with a strong volsella forceps during its removal by the ordinary saw motion with the spoon. Microscopical examination showed the tumor to be an ordinary myo-fibroma. The special interest in the case was the difficulty experienced in removal of the tumor, and the great advantage of Thomas's spoon-saw for this in addition to other purposes. The instrument with a straight shaft did not so well answer the purpose from the difficulty of manipulating it at the fundus. After the operation the uterine cavity was packed with carbolized cotton, and a tampon was maintained in the vagina.

Dr. MUNDÉ could testify to the excellence of the Thomas spoon-saw. Recently he had removed an intra-uterine fibroid as large as a fist by means of the scissors and the spoon-saw, producing very little hemorrhage. The patient made a good recovery. In that case he closed the divided cervix in the usual way, several weeks later, with success.

OVARIAN CYST; METHOD OF TREATING THE PERITONEAL WOUND.—Dr. HUNTER presented an ovarian tumor removed the week before at the Woman's Hospital from a patient sixty-four years of age, who, four years ago, first noticed slight abdominal enlargement, which had continued to increase since. The abdomen had become greatly distended and breathing was difficult. It was a question as to whether there existed simply an abdominal tumor, or whether there was in addition some ascitic fluid. The incision made was less than four inches in length. A thick sac, containing coffee-colored fluid, was first reached, and, when he was about to tie its pedicle, another cyst was seen containing perfectly clear fluid, and having a very thin wall. Between the two was the pedicle. The point to which Dr. Hunter wished to call attention was his method of uniting the peritoneal surfaces of the abdominal wall. He had noticed that a good many cases of mural abscess occurred from imperfectly united abdominal walls. In the present case he passed two silver sutures entirely through the abdominal wall, including the peritonæum, closed the peritoneal opening with catgut suture, and then closed the abdominal wound by superficial sutures of silk. The weight of the sacs and the fluid in this case was twenty-one pounds.

SARCOMA OF THE KIDNEY IN THE INFANT.—Dr. JACOBI presented a large sarcomatous tumor, involving the right kidney, removed from a child about two years of age, which recently died in Bellevue Hospital. The patient was admitted during his absence in the summer of the present year, at which time it was very much emaciated, and a tumor was recognized in the right side. It was reported that the tumor had been first recognized only a week previous to admission. The growth increased somewhat in size during the next three or four weeks. The patient, however, improved a little and was less anæmic. When Dr. Jacobi saw the patient, the 1st of October, there was a large tumor in the right side, over which there was dullness on percussion, extending from the region of the right kidney downward and forward. Between this tumor and the liver he was able to discover an area of about half an inch of tympanitic resonance. The physical signs, and the fact that the child had somewhat improved, pointed rather to sarcoma than to carcinoma. The abdominal veins were considerably enlarged, and the patient suffered a good deal from dyspnea. On the 2d there existed a slight amount of pneumonia on the right side, and on the 3d, there being signs of pleuritic effusion and the dyspnea becoming worse, five ounces and a half of bloody serum were withdrawn from the pleural cavity. Dyspnea was

relieved, and the child became comfortable. The tumor remained stationary for a week or two, and then grew rapidly and became softer. There had always been slight semi-fluctuation over the region of the tumor, as usual with large sarcomata, but one day during the last week of life decided fluctuation was found. Some decomposed bloody fluid was withdrawn with the exploring needle. The child died without any return of the pleuritic effusion.

The tumor had been examined by Dr. Prudden, who had kindly furnished the following report:

Report of Autopsy.—Body much emaciated. On the right side was a large, in general firm, but in places soft, tumor, filling the right side of the abdomen and bulging out its walls laterally and anteriorly. On opening the abdominal cavity, a large encapsulated tumor presented itself, nearly filling the abdominal cavity and firmly attached over the region of the right kidney, and slightly adherent to the right abdominal wall. The ascending colon ran obliquely over its lower left segment, and the remainder of the gut was crowded closely into the left side of the abdominal cavity.

On the anterior surface of the tumor the wall was thin and flaccid, and an incision opened into a cavity containing about half a pint of brownish-red fluid ofropy consistence. [Microscopical examination of this fluid showed numerous larger and smaller spheroidal cells greatly degenerated, and much granular detritus.]

The tumor was firmly adherent above the liver. The diaphragm on both sides was crowded up to the bottom of the third intercostal space. Spleen and left kidney normal. Left ureter slightly dilated.

On being removed, the tumor measured 25 cm. in length, 15 cm. in breadth, and 12 cm. in thickness.

On the inner posterior surface the slightly dilated ureter entered the tumor at a point of slight depression. It terminated in a mass of connective tissue, which was hollow, the cavity having the form of distorted calyces.

Around the above depression in the surface of the kidney was a crescentic mass of tissue about five mm. thick, which, on microscopical examination, proved to be compressed kidney tissue.

The bulk of the tumor was coarsely nodular, whitish, very soft, in most parts almost diffuent.

There were numerous small blood extravasations in various parts. Near the center of the tumor was a large blood-clot, about five cm. in diameter.

In addition to the anterior thin-walled cyst was a smaller one near the posterior surface, filled with the same brownish-red,ropy fluid. The two cysts had the appearance of having been formed by simple softening of the tumor tissue.

The stomach contained a considerable quantity of tenacious mucus.

The opening of the thorax was not permitted by the friends, but the organs were removed from below. The heart was normal. The lungs were somewhat adherent, but otherwise normal.

Microscopical examination of the tumor showed it to be a *round-celled sarcoma*.

Dr. Jacobi quoted from the proceedings of the society for 1874 and 1881, when he presented cases of sarcoma of the kidney and made remarks. In 1874 he had been unable to discover the records of similar cases. In 1881 he himself had seen several cases, and in literature he found the record of nine cases. At present, looking over his case-book, he found the record of about fourteen or fifteen cases in all of sarcoma of the kidney. It would seem, therefore, that the condition was not very rare, and that it had not been observed before simply because attention had not been called to it. The true condition had probably been overlooked in many instances, and called mesenteric tabs, etc. However, Dr. A. Seibert, of this city, was about collecting and recording the statistics of primary tumors of the kidney, and, while he met with but few sarcomata in literature, he could compile about fifty cases of carcinoma of the kidney, including a case in his own practice. Dr. Jacobi had seen but

very few cases of carcinoma of the kidney compared with sarcoma, and thought that, after all, the observations and records were too few to permit of statistical reliability.

HENRY J. GARRIGUES, M.D.,
BENJAMIN F. DAWSON, M.D.,
FRANK P. FOSTER, M.D., *ex officio*,
Committee on Publication.

NEW YORK CLINICAL SOCIETY.

Meeting of January 25, 1884.

W. H. KATZENBACH, M.D., Chairman for the evening.

DILATATION OF THE STOMACH TREATED WITH IRRIGATION.—Dr. BEVERLEY ROBINSON showed a boy, seventeen years old, who had suffered from dyspepsia of an obstinate and distressing character, and had failed to receive permanent benefit from treatment of various sorts before being admitted into St. Luke's Hospital, where he came under Dr. Robinson's care. The following written history of the case had been furnished by Dr. Samuel T. King, of the hospital:

R. W., aged seventeen, an errand-boy, was admitted November 9, 1883. His family history was good, and he had never had rheumatism or any acute disease, nor had he been addicted to alcohol, but he had been a hasty and irregular eater. Two years ago he began to have pain on each side of the umbilicus, but none in the epigastrium. In a short time he began to vomit after eating his supper, but seldom did so after the other meals. The vomiting has continued. What he vomits now consists of mucus, never with any blood. He has no headache, and there are no cardiac, renal, or pulmonary symptoms. He suffers considerably with eructations, his appetite is poor, and he complains of numbness in the hands and feet. His bowels are constipated, and the stools are lead-colored. Pulse, 90; temperature, 98.8° F. The stomach is found to be dilated. Nothing abnormal is found about the urine.

November 10th.—Ordered \mathcal{R} Acidi carbolici, liq. iodinii comp., $\bar{a}\bar{a}$, gtt. j; glycerin. \mathcal{J} ss. M. S. Cap. haust. tal. 4ta qu. hora.

13th.—From this date to January 20, 1884, the patient's stomach has been irrigated every day with warm water containing about fifteen grains of borax to the pint, the washings being repeated until the fluid came from the stomach fairly clear.

15th.—As he vomits all ingesta, he is allowed nothing by the mouth, but is directed to have a nutrient enema three times a day. Each enema contained an egg, a tablespoonful of brandy, milk, and a little laudanum.

17th.—There is obstinate constipation, and he passes hard, scybulous masses. Ordered a daily enema containing a fluidrachm of oxgall, four fluidounces of glycerin, and eight ounces of water.

19th.—Ordered one drop of liquor potassii arsenitis three times a day.

22d.—He has been given two fluidounces of pancreatized milk every two hours, while awake, and his diet was gradually increased until he began to vomit again, when he was again placed on the use of peptonized milk. From the 12th of December to the 1st of January he was allowed scraped beef in small amount. At the latter date he was taking a variety of food, mainly nitrogenous. The nutritive enemata were stopped December 17th. On the 2d of December the carbohc acid, iodine, and arsenic were discontinued, and he was ordered five drops of tincture of nux vomica three times a day, the latter being continued for nine days. On the 20th of December he was again ordered a mixture of carbohc acid and iodine, and there was no vomiting after the 22d.

January 20, 1884.—The iodine and carbohc acid are discontinued, and he is ordered ten grains of bismuth, five grains of powdered cubebs, and one twelfth of a grain of ipecac three times a day. After this date the irrigation of the stomach was practiced only every other day.

25th.—He weighs 111 pounds, an increase of eight pounds during the last five weeks.

Dr. E. G. JANEWAY had employed irrigation of the stomach in a number of cases. Some of the patients had been benefited by it, and some had been made worse. He thought that equally good results might be obtained by putting the stomach absolutely at rest and employing rectal alimentation. The good effects of this latter method had been strikingly illustrated in the case of a patient recently seen by him, in which the symptoms were highly suggestive of cancer of the stomach—there had been hæmoptysis and a reduction of weight from 180 to 115 pounds. He thought there was stenosis of the pylorus, perhaps of a spasmodic nature. The patient was put upon his back and rectal alimentation was employed for ten days, followed by ordinary treatment, and he had now regained his 180 pounds and was as well as ever. He (Dr. Janeway) had often found that the washing out was very grateful to patients, but in nervous women it frequently caused fainting. The symptoms of dilated stomach were often present when there was no opportunity to verify the diagnosis by post-mortem examination. On the contrary, the condition was sometimes found post mortem when it had not been suspected during life. In the case of the patient shown, there was evidently some catarrhal process present.

EMPYEMA.—Dr. W. H. KATZENBACH showed a patient with the following history:

James McC., aged thirty-six, a native of Ireland, a horse-car conductor, of good family history, had never been sick until February, 1878, when he took cold, and had cough and expectoration, which continued through the summer without improvement. He lost flesh, and grew weaker. In October he was seized with sudden, sharp, dagger-like pain in the epigastrium, shooting toward the right nipple, and making respiration very difficult. Fever of ten days' duration followed, and dyspnea on exertion succeeded this. Cough and expectoration of "white phlegm" and great shortness of breath had persisted up to the time of his visit to me.

Physical examination revealed flatness over the whole right side of the chest. The heart was displaced to the axillary line. The first aspiration was performed March 29, 1879, and 138 ounces of sero-pus were removed. The operation was repeated as follows:

December 13, 1879.—152½ ounces removed.

October 2, 1880.—89 ounces removed.

November 6, 1881.—76 ounces removed.

October 28, 1882.—81½ ounces removed.

In November, 1882, an opening into the lung occurred, and large quantities of pus were expectorated, which state of things continued until December, when a painful swelling appeared in the right side, at the level of the eighth or ninth rib.

January 6, 1883, the tumor was incised, and a small amount of pus escaped. A probe could not be made to enter the cavity of the chest. Aspiration was performed, removing 114 ounces of dark-grayish sero-pus.

13th.—A probe having been passed through the eighth intercostal space, the opening was enlarged, and about 100 ounces of pus escaped. A large rubber drainage-tube was inserted. The operation was followed by very little febrile disturbance. The cavity was washed out daily with very dilute compound solution of iodine.

In February the capacity of the cavity was two quarts. The rubber tubing was discarded in a few days, and a flattened silver tube, two inches and a half long, was substituted for it. Through this about ten inches of drainage-tube were passed, which extended downward and forward, the extremity apparently resting on the diaphragm. The capacity of the cavity at that time was one quart.

After reading these notes, Dr. Katzenbach said: "The patient has been shown to the Clinical Society before, but I have brought him this evening to show the result of the operation. He has gained in weight, and feels perfectly well. The right side of the chest is very much contracted, and the spine is twisted. The cavity is in front, extending downward and out-

ward toward the site of the opening. The case is of interest also from the fact that the effusion has been tolerated so well and so long. I never found him with a temperature above normal until after the radical operation, and then only for a few days. On this account it was delayed until spontaneous opening threatened."

Dr. JANEWAY called attention to the danger of using anesthetics in operating for empyema, particularly where there was perforation of the lung. He had known of two deaths from asphyxia due to their employment.

Dr. ROBINSON thought no good came of postponing operation so long as had been done in this case, and asked the reason for its having been done.

Dr. KATZENBACH replied that the man was able to go to his work at once after aspiration, and suffered very little inconvenience.

Dr. L. WILLISTON WRIGHT believed that in some cases incision was unnecessary. He had seen a young girl, who finally recovered perfectly without it, from whom 957 ounces of fluid, in all, had been taken by aspiration.

Dr. JANEWAY said he had seen fluid from the chest very turbid from cholesterol scales. In some cases certainly operation aggravated the symptoms. In a woman who had no fever, the pulse being slow, although the heart was much displaced, an incision, made under full antiseptic precautions, had led to the development of cellulitis, and the patient had come near dying.

Dr. J. E. WINTERS said it was well known that effusions became purulent much sooner in children than in adults, but even in them absorption was sometimes seen.

Dr. L. EMMETT HOLT referred to a case, published in a recent number of the "British Medical Journal," in which the rapid absorption of pleuritic effusion had been accomplished by the hourly administration of drachm doses of common salt, together with the cutting off of all fluids. In this case there was great dyspnea with cyanosis, and the patient refused to permit aspiration. In two hours there was improvement, and in six or eight hours the cyanosis had disappeared almost entirely.

THE LESSER DEGREES OF CHRONIC PELVIC INFLAMMATION IN WOMEN.—Dr. FRANK P. FOSTER read a paper with this title, which will be published in full hereafter.

Dr. ROBERT ABBE agreed with the author as to the danger of correcting displacements with instruments. He had often felt that harm was thus done, and that little was gained. The finger was more efficacious and less dangerous. He asked whether Dr. Foster had used mercury in recent plastic exudations.

Dr. FOSTER replied that he had not.

Dr. J. H. EMERSON was not ready to say that the uterus should never be replaced by mechanical means. He was convinced of the great benefit to be derived in the class of cases under consideration from local treatment that was not operative—such as hot douches, iodine applications, local depletion, etc.—when time would allow of them.

Dr. ROBINSON thought that old pelvic adhesions, although common enough, were by no means so frequent as pleuritic adhesions, judging from what he had seen in the post-mortem room.

Dr. GEORGE L. PEABODY said that his experience was that old pelvic adhesions were exceedingly common. The majority of the bodies of women that he had examined had shown them, and in many there had been no other pelvic lesions. Quite a proportion, however, showed dilatation or a cystic condition of the Fallopian tubes in addition. He asked the grounds for the statement, so often made, that all pelvic viscera were engorged during menstruation. There was no doubt that this was the case with the uterus, but it had seemed to him to be doubtful in

regard to the other pelvic contents. Why, then, should menstruation predispose to pelvic inflammation?

Dr. JANEWAY said that, so far at least as hospital patients were concerned, pelvic adhesions were exceedingly common. Without doubt, their habits had much to do with the matter.

Dr. EMERSON thought the use of the sewing-machine ought not to be forgotten as a cause of these troubles.

KOCHER'S METHOD OF REDUCING SHOULDER DISLOCATIONS.—Dr. ABBE referred to two cases of dislocation at the shoulder in which he had used Kocher's method of manipulation with success. In one of them the heel-in-the-axilla method had failed. The bone slipped into place very readily. The dislocation was of the subcoracoid variety. In the second case it was subglenoid, and the reduction was accomplished before the manipulation was completed.

STONE IN THE BLADDER.—Dr. WRIGHT related the case of a man, thirty-six years old, who had suffered from symptoms of stone in the bladder for eighteen months. At several examinations with a Thompson's searcher the stone was easily recognized, and was usually found in the lower portion of the bladder, on the right side. It could also be appreciated distinctly through the base of the bladder when the finger was introduced into the rectum. These points were repeatedly verified by several members of the house staff at Bellevue Hospital. Lateral lithotomy was performed on the 7th of January. On making the ordinary incision, a large artery accompanying the transversus perinaei muscle (probably the artery of the bulb) was divided, and bled so profusely as to require clamping. The membranous urethra was then opened in the usual manner, and, on attempting to incise the left lobe of the prostate, the point of the knife came in contact with the stone and was arrested in its progress, the stone having apparently entered the prostatic urethra during the operation and become wedged under the staff. The calculus was then removed with forceps without incising the bladder, and the prostate was found to be uninjured. The neck of the bladder and the prostatic urethra were found to be very much dilated. The stone measured an inch and a half in length and three quarters of an inch in its greatest transverse diameter, weighed two drachms, and had the general shape of an egg, but was quite pointed at the smaller end. Its nucleus consisted of phosphates, outside of this there was a blood-clot, and around the latter there were alternate layers of urates and phosphates. The patient had an alarming hemorrhage three hours after the operation, requiring the employment of the "shirted cannula," which was left in the wound for thirty-six hours. Since then he had done well.

A NEEDLE SUPPOSED TO HAVE BEEN SWALLOWED.—Dr. HOLT showed a needle which he had removed from the buttock of a child a year old, about four weeks after the child had had some throat symptoms which had led the parents to suppose that a foreign body had been swallowed. Nevertheless, it was somewhat doubtful whether the needle had indeed gone through the intestinal canal. It was corroded.

L. EMMETT HOLT, M. D., *Secretary.*

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By ALEXANDER DUANE, M. D.

THE PATHOLOGY OF DROPSY.—In a clear and satisfactory paper, Dr. T. Lauder Brunton ("Practitioner," Sept., 1893) emphasizes the fact that mere obstruction to venous return is in-

sufficient to produce oedema, unless there be at the same time increased transudation through the capillaries. Such an excess of transudation is due doubtless to increased permeability of the capillary walls, and this in turn is often occasioned by anything circulating in the vessels which tends to give the blood an acid reaction. Certain poisons, such as arsenic, act in this way; hence probably the oedema of the eyelids seen in arsenical poisoning; hence also the localized oedemas constituting urticaria and following the ingestion of irritant foods.

THE PSILLOSIS OF HOT CLIMATES.—According to Dr. G. Thin (*Ibid.*), psilosis linguae, psilosis mucosae intestini, also called "sprew," is an affection occurring in those who have been exposed to malarial influences in hot climates, and it appears to consist in a deficiency in the formative power of the lingual and intestinal epithelium.

Its prominent symptoms are diarrhoea with ultimate progressive loss of strength and death from marasmus, and sensitiveness of the tongue with a raw appearance of the latter. It is liable to relapses, and usually chronic in its course. A milk diet and the observance of hygienic precautions, with attention to the maintenance of the biliary secretion, seem to constitute the most effective treatment.

RHEUMATISM IN CHILDREN.—In the discussion on rheumatism held before the Section on Diseases of Children of the British Medical Association ("Brit. Med. Jour.," Sept. 15, 1883), Dr. T. Barlow read a long and rather elaborate paper upon the various affections associated with rheumatism, including more particularly an account of the cutaneous and subcutaneous manifestations and chorea. The latter, it may be noted, he considers to be rather a symptom than a disease. He aims to show how various may be the manifestations of rheumatism in children, and yet how closely these manifestations are related to the typical symptoms of acute rheumatism as seen in adults.

Dr. H. Ashby, in discussing twelve cases of rheumatoid trouble following scarlatina, denies the existence of a true rheumatic element in such cases. This he does on the ground of the lightness of the joint affection, the absence of cardiac complications, the presence of pyemic symptoms in two cases, and the regularity with which the articular trouble appeared at the end of the first week.

Dr. E. Rickards, in discussing the relations of chorea to rheumatism, thinks that the relation is rather one of association than causation, the chorea being dependent rather upon the depressant effects of rheumatism than upon any specific influence exerted by the latter.

Dr. J. S. Bury, on the other hand, is rather disposed to assert the more intimate relation of the two diseases.

The discussion of these papers brought out the fact that wide differences of opinion still exist among English physicians, at least, as to the relation of rheumatism to scarlatina on the one hand, and to chorea, cardiac disease, and cutaneous affections on the other. The central nervous origin of these various related affections was held probable by at least one of the speakers.

THE NATURE OF PURPURA.—Dr. S. Mackenzie (*Ibid.*, Sept. 1, 1883) believes that purpura, like dropsy, glycosuria, and other affections formerly classed as distinct diseases, should rather be considered as a symptom which may be dependent upon the most various pathological conditions. Classifying its varieties, therefore, upon a basis of causation, he considers that purpura may be either (1) vascular (hæmic), and dependent upon changes in the constitution of the blood, whether brought about by disease or by deficient nutrition; (2) toxic, dependent upon the presence of poisons in the blood; (3) mechanical, dependent upon interference with the circulation, as in cases occurring in the course of cardiac disease; (4) neurotic, dependent upon

some affection of the central or peripheral nervous system. He gives illustrations of each of these varieties. These views were in the main concurred in by Mackenzie's audience, although it was maintained by some that not every case of purpura could fairly be brought under one of these categories, and that there were instances in which it seemed to be a disease *sui generis* and not a symptom.

THE TREATMENT OF INFANTILE DIARRHŒA.—Dr. B. G. Morrison (*Ibid.*, Aug. 25, 1883) considers two varieties of infantile diarrhoea, one dependent upon indigestion of milk, the other a reflex disturbance due to dentition. The former is characterized by the presence of stools approaching the dysenteric character, very acid in reaction, greenish in color, and containing mucus. In its treatment cholagogue remedies, ipecac, rhubarb, phosphate of sodium, etc., take the most prominent place, it being premised, of course, that the undigested material is first removed by cathartics. Diarrhoea dependent upon dentition is characterized by the profuse and watery character of the dejections, and is most promptly relieved by lancing the gums and by the administration of nervines, more especially the bromide of ammonium and camphor.

TYPHOIDAL ORCHITIS.—Dr. A. Olivier ("Rev. de méd.," Nov., Dec., 1883) has been able to collect from the literature of typhoid fever and from personal experience twenty-seven cases in which acute orchitis occurred as a complication or a sequela of typhoid fever. The occurrence was noticed as long ago as 1844 by Velpeau, and has since been referred to occasionally by different authors. Various theories of its origin have been propounded, to all of which Olivier objects as either unproved or contrary to the clinical features of the disease. Thus, Vidal's theory that the orchitis is due to a thrombosis of the spermatic veins, Duffey's, that it is rheumatic in origin, Hallepeau's, that it arises from parenchymatous changes in the testicle similar to those in the liver, the spleen, and other organs, are all more or less at variance with the facts in the cases which he has examined; and the other hypotheses—that the involvement of the testicle is due to masturbation, to urethral inflammation, or to a temporary congestion of the gland, like that occurring in the parotid—are mere assumptions, unsupported by any valid evidence. The distinguishing features of true typhoidal orchitis are as follows: It comes on generally during the period of convalescence from the fever (in twenty-one cases out of twenty-seven); it is usually unilateral; it generally affects the testicle alone, less frequently the testicle and the epididymis together, and but rarely the epididymis alone (in three cases); it terminates in suppuration in nearly one fourth of the cases; it adds no gravity to the prognosis of the fever.

ACUTE ARTERITIS AFTER TYPHOID FEVER.—In an interesting article (*Ibid.*, Jan., Feb., 1884), Barié relates the symptoms and pathology of acute arteritis consecutive to typhoid fever, as observed in twenty-four cases. The affection usually comes on at the beginning of convalescence, and may occur as well in the mild as in the severe forms of typhoid fever. Barié distinguishes two varieties of arteritis, the obliterating and the parietal. In the former there is infiltration of all the coats of the artery, with roughening of the intima, and with the production of a thrombus within the vessel. The parietal variety may be regarded as an incomplete form of the obliterating arteritis, in which no thrombosis occurs. The symptoms in the former case are severe, sudden pain along the course of the vessel; diminution or suppression of the arterial pulsation; the appearance, in the part supplied by the vessel, of a swelling unattended by redness and not pitting upon pressure; lowering of the local temperature; and the presence of a cord-like feeling along the course of the artery.

This condition usually terminates in dry gangrene of the

parts supplied. [Yet in two cases of femoral thrombosis consecutive to typhoid fever observed by us in hospital practice no permanent injury resulted to the limb.] In the parietal variety the symptoms are less marked and the cord-like sensation is absent. The temperature of the part may even be elevated. The prognosis, too, is much better, the part usually recovering without the supervention of gangrene. The affection occurs oftenest in the vessels of the lower extremity (in all but two of the twenty-four cases). It is to be diagnosticated from myalgia and myositis, from phlegmasia dolens, and from lymphangitis. [In the same journal Vulpian records a case of hemiplegia and aphasia following typhoid fever, due probably to thrombosis of the middle cerebral artery, which was consequent, apparently, upon an arteritis of the kind that Barié describes.]

MICRO-ORGANISMS IN TYPHUS.—Mott and Blore ("Brit. Med. Jour.," Dec. 1, 1883), in an examination of the blood of twelve typhus-fever patients, found in every case micrococci which were not present in other febrile conditions. In six post-mortem examinations the tissues of the heart were found to be degenerated and to contain colonies of micrococci. No organisms were discovered in the other tissues. In the discussion upon this paper the subject of tuberculosis and its bacillus came up, and strong evidence was adduced of the constant association of the lesions of tuberculosis with the specific micro-organism, and of the diagnostic value of the latter.

TYPHUS IN CHILDREN.—Tompkins (*Ibid.*, Dec. 15, 1883) says that the typhus fever of children differs from that of adults mainly in the less pronounced character of the initial symptoms, the lower range of the temperature, the absence of active delirium, and the very great degree of lethargy and stupor usually present. Upon the latter symptom he lays especial stress, saying that the stupor is often as deep as that produced by a narcotic poison. The eruption also is less characteristic than in adults. Moreover, the course is shorter, convalescence more rapid, and the prognosis more favorable than in the case of adults.

SYMPTOMATIC OR BACTERIAL ANTHRAX.—Arloing, Cornevin, and Thomas ("Rev. de méd.," Nov., 1883, Jan., 1884), already well known for their researches upon charbon and its prevention by inoculation, have recently carried on experiments upon a large scale, and have arrived at very important results. They show that, out of five hundred animals inoculated by intra-venous injection of the natural virus, not one contracted the disease, and, in consequence, the mortality in the districts in which inoculation was practiced was much diminished. It is not certain, although probable, that inoculation with virus "attenuated" by heat is as efficacious as the intra-venous injection of natural virus.

HEMICHOREA DUE TO CEREBRAL LESIONS.—Mabroux (*Ibid.*, Dec., 1883) relates an interesting case in which hemichorea resulted from an apoplectic lesion of the internal capsule at its posterior portion, and on the opposite side to that affected during life by the choreic movements. This situation corresponds to the region marked out by Charcot and Raymond as the hemichoreic center. In addition, there was a condition of chronic meningo-encephalitis which had evidently long antedated the lesion of the internal capsule; and, as there were none of the usual factors present which would conduce to the production of apoplexy in the latter region, the author believes that this central lesion was consecutive to the irritation excited by the constant presence of peripheral meningeal disturbance.

THE PERIPHERAL ORIGIN OF LOCOMOTOR ATAXIA.—Page ("Brain," Oct., 1883) maintains that locomotor ataxia may sometimes have a peripheral origin, and, in support of this view, describes a case in which a painful ulcerating corn on the foot was the starting-point of degenerative changes in the peripheral

nerve fibers—changes which ultimately affected the cord itself and produced well-marked symptoms of ataxic disease.

LOCOMOTOR ATAXIA FOLLOWING DISEASE OF THE BLOOD-VESSELS.—Buzzard (*Ibid.*, Jan., 1884) gives a carefully written and very minute account of the symptoms and the autopsy in a case of locomotor ataxia in which the starting-point seemed to be in the vessels of the membranes and substance of the cord [periarthritis]. He suggests that the lesions of the optic nerve which are most marked toward the periphery may so originate, disturbances of nutrition affecting the nerve fibers and dependent upon altered blood-supply being most likely to occur in the terminal fibrils of the nerve.

THE RELATIONS OF PHTHISIS AND ALBUMINURIA.—Dr. C. T. Williams ("Brit. Med. Jour.," Dec. 29, 1883), in pointing out the connection between albuminuria and pulmonary phthisis, gives a summary of sixteen cases of phthisis in which albuminuria was present. With the albuminuria, which was generally very marked, there was very great diminution in both the absolute and the relative amount of urea (in one case to one tenth of the normal quantity). In spite of this great falling off in the amount of urea, none of the severer symptoms of uræmia were present. The temperature was in general lower (by about 1° F.) than in cases of phthisis of similar intensity uncomplicated by albuminuria, although the daily range was about the same in both sets of cases. This depression of the temperature the author ascribes to the retention of poisonous urinary constituents in the blood, and recalls the observation of Stolnikoff, who found that the pyrexia due to septicæmia and other conditions could be averted by compressing the renal arteries. The prognosis in cases of phthisical albuminuria is in general very bad, the patient often succumbing within a few weeks or months after the development of this symptom. In twelve of the cases autopsies were obtained, and in seven of these the kidney was found to be in a state of amyloid degeneration, while in three others the presence of amyloid material was uncertain; and in only two was the absence of the latter proved.

THE USE OF COW'S-MILK KUNYSS AS FOOD FOR INFANTS.—Ponomareff ("Arch. f. Kinderheilk.," v, 1, 2, 1883) believes that, while artificial kunyss, prepared from cow's milk, is of service in the treatment of many cases of infantile intestinal catarrh, it can not be used for any length of time as an exclusive article of diet; and, further, that poorly nourished children under the age of one month bear its administration badly, and suffer disturbances of digestion from its continued use.

THE MALIGNANT COMPLICATIONS OF SCARLET FEVER.—Hesselbarth (*Ibid.*, v, 3, 4, 1884) gives statistics of the results of post-mortem examination in eighty-one cases of scarlatina. These were taken from the records of the Pathological Institute in Berlin, and included all the cases of death from this cause occurring among 14,000 deaths from all causes. Of these eighty-one cases, fifty-nine occurred in children under the age of ten, and the maximum number of patients appeared to be between the ages of four and seven. The majority of deaths took place during the autumn months.

Of complications affecting the serous membranes there were found two cases of pachymeningitis, two of pericarditis, two of peritonitis, and eighteen of pleurisy. Four cases of purulent inflammation of the joints were observed. Miliary hæmorrhages under the skin or serous membranes were found in seven cases. Diphtheritic affections were present in forty cases, and included diphtheritic inflammation of external wounds and diphtheritic ulceration of the stomach, as well as the more common diphtheria of the pharynx, the larynx, the conjunctiva, and the nares.

In fifty cases there was bronchial catarrh, which in twenty was associated with laryngeal and tracheal inflammation. Gastro-enteritis existed in twenty-one cases, catarrhal pneumonia

was found in seven, croupous pneumonia in thirteen. The spleen was hyperplastic in forty cases, while in eight there were embolic lesions, either single or multiple.

In the kidneys a certain degree of parenchymatous change was almost constant. Six times acute hemorrhagic nephritis, five times diffuse nephritis, and twice suppurative nephritis were present. In eight cases suppurative inflammation of the tonsils and pharynx occurred. Purulent or hyperplastic inflammation of the cervical, inguinal, and salivary glands was found in several cases. Phlegmonous processes in the connective tissue about the neck, or in the neighborhood of the larynx and œsophagus, were observed five times. Otitis was not present in any of the cases; a surprising result, considering the frequency with which clinical experience has shown it to follow the disease.

How to LIMIT THE SPREAD OF SCARLET FEVER.—JAHNSEN ("Edinburgh Med. Jour.," March, 1884) thinks that very much can be done in this direction by the use of warm baths nightly, the body being afterward greased with an antiseptic ointment (the one which he himself employs contains 30 grains of carbolic acid and 10 grains of thymol to the ounce), and by the regular application of a solution of boroglyceride to the throat.

If these precautions are taken at the very outset of the disease and kept up through its entire course, cases which can not be thoroughly isolated may be rendered innocuous, so far as transmission of the disease is concerned. The author adds that all cloths and bedding should be steeped in a dilute solution of carbolic acid.

THE DIAGNOSTIC AND PROGNOSTIC VALUE OF THE TUBERCLE BACILLUS.—MACKENZIE (*Ibid.*, Feb., 1884), in a paper, distinguished for the conciseness with which he presents an important series of facts, details the results of examination in seventy cases of pulmonary and laryngeal disease. A little over one half of these cases were undoubtedly instances of tuberculous disease, and in all the specific bacilli were present in the sputum. In the acute cases they were usually from three to four times as abundant as in those of chronic course. In laryngeal phthisis the bacilli were usually present in abundance, and were especially numerous in the mucus taken directly from the larynx by the laryngeal brush. So marked was this phenomenon that Mackenzie attributes great diagnostic value to this mode of examination in doubtful cases of laryngeal inflammation or ulceration. On the other hand, the absence of bacilli in the sputum in suspected cases is at least strong presumptive evidence against the existence of tuberculous disease. In Mackenzie's series of cases bacilli were absent in thirty-three, of which twenty-two were undoubtedly non-tuberculous, and the remainder, although of doubtful character at the time of observation, were proved by their subsequent history not to be of tubercular origin. Accordingly, he ascribes considerable diagnostic value to the presence or absence of the bacilli in doubtful cases, especially in the incipient stages. In common with other observers, he does not consider that much stress should be laid upon the prognostic indications afforded by the number of bacilli present, since non-febrile cases of slow course may show an abundance of bacilli, while cases of acute general tuberculosis, in which the lungs are not greatly affected, usually show very few.

records the case of a little girl suffering with chronic interstitial keratitis, who ceased attending at the institution after having been under treatment for four months, and having improved satisfactorily under the internal use of iodide of potassium and corrosive sublimate, with the occasional installation of atropine. After an absence of three months she returned, and the condition of the eyes was then such as to call for further treatment. The internal treatment was resumed, and calomel was dusted into both eyes, to reduce enlarged conjunctival vessels. On the following day she was seized with a sharp conjunctivitis of the right eye, injection of the circumcorneal zone, and vascular extension on to the cornea. There was vascular irritation of the other eye, but no actual inflammation. Mr. Pryce speculates as to the cause of the conjunctivitis. Dismissing the idea that the simple insufflation of calomel was sufficient to give rise to the trouble, and having satisfied himself that the calomel did not contain corrosive sublimate, he inclines to the conclusion that an iodide of mercury was formed by a reaction between the iodide of potassium circulating in the blood and the calomel applied to the conjunctiva. He refers to similar cases published by M. Hennequin and M. Lagarde, both of whom attributed the result to the formation of an iodide of mercury in the manner suggested. In one of their cases actual sloughing of the conjunctiva took place.

Salicylic Plaster for the Removal of Thickened Epidermis.—Dr. J. C. Ogilvie Will, surgeon to the Aberdeen Royal Infirmary, writes to the "British Medical Journal" that, having had his attention drawn to the value of Beiersdorf's salicylic plaster in the treatment of cases of thickened epidermis, by its having been mentioned by Dr. Thin, at a recent meeting of the Clinical Society of London, as recommended by Unna, of Hamburg, he (Dr. Will) employed it in the case of a man who had a peculiar affection of the dorsum of the foot, the whole fore part of which was rough, brown, and warty-looking, not unlike the hide of a hippopotamus. The overgrown epidermis was firmly attached to the underlying derma, as was shown by the occurrence of bleeding when an attempt was made to detach it, and the trouble was stated to have existed for two months. The affected part was strapped with the plaster, cut into strips, and at the end of three weeks it was found nearly cured. The application was then repeated to the portion that remained warty, and in ten days more the entire skin of the foot was perfectly normal.

Injections of Ergotin into the Spleen.—Professor Fenoglio ("Spallanzani"; "Centralblatt f. d. ges. Therapie," March, 1884) has recently made use of injections of Bonjean's ergotin into the substance of the spleen in a case of swelling of the organ which had proved rebellious to other treatment. The injections were repeated on different days, with antiseptic precautions, using five centigrammes dissolved in a cubic centimetre of hot water. A decided diminution in the bulk of the organ is said to have been the result.

TUBERCULOSIS IN HENS.—"The Journal of Comparative Medicine and Surgery" says: Professor Johnne, of Dresden ("Deutsche Land-Presse"), reports quite a number of cases of tuberculosis in hens, which were traced to their being fed by a person having the disease, and who had the habit of giving the hens meat which she had chewed up for the juices. She was very fond of the hens, and in summer weather they would congregate about her, and frequently would pick up the sputa which she had coughed up. The liver, kidneys, and intestines were mostly affected.

THE PASSENGER SHIP MEDICAL SERVICE BILL.—Under the title of "a bill to regulate the carriage of passengers by sea," the following bill has been introduced into the Lower House of Congress by Mr. Slocum, read twice, referred to the Committee on Commerce, and ordered to be printed:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in every steamship or other vessel carrying or bringing passengers other than cabin passengers to the United States, there shall be properly constructed and separated from other parts of the vessel two compartments or spaces to be used exclusively as hospitals, the one for the men and the other for the women, such hospitals to be located on the main deck or the deck immediately below it, and never on any lower deck, and to be in

Miscellany.

THERAPEUTICAL NOTES.—*The Danger of using Iodide of Potassium Internally and Calomel Locally at the Same Time.*—In the "Lancet" for March 29th Mr. T. Davies Pryce, of the Nottingham Dispensary,

no case less in size than the proportion of eighteen clear superficial square feet for every fifty such passengers and crew; and such hospitals shall be supplied with proper beds, bedding, and utensils, and kept so supplied throughout the voyage.

SEC. 2. That every steamship or other vessel carrying or bringing passengers other than cabin passengers exceeding, with the crew, fifty in number, and less than six hundred, shall be required to carry a duly qualified, competent, and regularly licensed surgeon or medical practitioner, and, where the number of such passengers and crew is over six hundred, a junior or assistant surgeon or medical practitioner in addition, which surgeons or medical practitioners, junior and senior, shall be rated as such on the ship's articles, and shall be provided with surgical instruments, medical comforts, and medicines proper and necessary for diseases and injuries incident to a sea-voyage, and for the proper medical treatment of such passengers and crew during the voyage, and with such articles of food and nourishment as may be proper and necessary for preserving the health of infants and young children; and the services of such surgeons or medical practitioners shall be promptly given without fee in every case of sickness, disease, or accident to any of the passengers or crew, or to any infant or young child of any such passenger who may require their services; and the medical officer, where there is but one, and the senior where there are two, shall also be required to perform the duties of sanitary officers, to make daily inspections of all inhabitable portions of the vessel, and daily reports thereon in writing to the master of the steamship or passenger vessel, together with such suggestions and recommendations as in his judgment may be necessary to the preservation of health on board. He shall also exercise constant vigilance in regard to the condition of the provisions and water, and promptly report to the master anything which may appear to him to be deleterious to the health of any person on board.

SEC. 3. That for the proper exercise of these functions, and the maintenance of the respect to which such medical and sanitary officers are entitled, they shall be provided with a steward or apothecary competent to dispense medicines under their direction and for their special service; and their tenure of office, remuneration, and right to suitable quarters, subsistence, and attendance shall be upon the same basis as and co-ordinate with the purser, first officer, and chief engineer of the vessel on which they serve.

SEC. 4. That for a violation of either of these provisions, or the disregard of the recommendations made in writing by the medical and sanitary officers as herein provided, the company to which the steamship or other passenger vessel belongs shall be liable to a penalty not exceeding two hundred and fifty dollars in every case.

SEC. 5. That this act shall take effect and be in force from and after its passage.

THE AMERICAN MEDICAL ASSOCIATION.—Under date of April 2, 1884, A. Y. P. Garnett, M. D., announces that the chairman of the Committee of Arrangements has accepted and approved a schedule prepared for the Section of Practice of Medicine, by the chairman of the section, Dr. John V. Shoemaker, and its secretary, Dr. W. C. Wile, of which the following is the substance:

Discussions will be held as follows, and it is stated that those who are announced to take part have consented to do so, and will be present.

1. A discussion on "A Contribution to the Clinical Study of Epilepsy" will be opened by Professor William Pepper, and continued by Dr. Roberts Bartholow, Dr. Horatio Wood, Dr. J. S. Jewell, Dr. James T. Whittaker, Dr. O. P. Hooper, Dr. Eugene Grissom, Dr. James E. Reeves, Dr. T. B. Lester, Dr. Joseph P. Logan, Dr. W. K. Bowling, Dr. John S. Moore, Dr. James F. Hibbard, Dr. J. J. Caldwell, Dr. John A. Murphy, and Dr. A. P. Grinnell.

2. A discussion on the "Clinical Study of the Heart Sounds" will be opened by Professor Austin Flint, Sr., and continued by Dr. Edward G. Janeway, Dr. William Pepper, Dr. Frederick C. Shattuck, Dr. John H. Bennis, Dr. James Wilson, Dr. Richard McSherry, Dr. James R. Leaning, Dr. John S. Lynch, and Dr. A. B. Palmer.

3. A discussion on "Tuberculosis" will be opened by Dr. Henry F. Formad, and continued by Dr. Austin Flint, Sr., Dr. William H. Welch, Dr. N. S. Davis, Dr. George M. Sternberg, Dr. R. H. Fitz, Dr. Henry O.

Marcy, Dr. James Tyson, Dr. Edward G. Janeway, Dr. Charles Dennison, Dr. Henry F. Campbell, Dr. W. T. Belfield, Dr. Alonzo Garcelon, Dr. E. O. Shakespeare, Dr. G. C. Smythe, Dr. Harold C. Ernst, Dr. W. E. Geddings, Dr. Trail Green, and Dr. John Lynch.

Papers have been promised as follows: Dr. S. G. Ayres ("New Theory and Instrument of Diagnosis"); Dr. Roberts Bartholow (subject to be announced hereafter); Dr. S. K. Crawford ("Ætiology of Enteric Fever"); Dr. Louis A. Duhring ("Dermatitis Herpetiformis"); Dr. Austin Flint, Jr. ("Dietetic Treatment of Diabetes Mellitus"); Dr. Trail Green ("The New Official Chlorate"); Dr. Gaspar Griswold ("Irregular Apoplectic Attacks from Other Causes than Hæmorrhage and Embolism"); Dr. Edward G. Janeway ("Simulation of Pathognomonic Signs and Symptoms"); Dr. S. K. Jackson ("Typhoid Fever"); Dr. A. T. Keyt ("Retardation of the Pulse in Mitral Insufficiency"); Dr. G. A. Linn ("Specific Treatment of Diphtheria and Croup"); Dr. Alexander Marcy, Jr. ("Muscular Hypertrophy of the Stomach"); Dr. Henry O. Marcy ("The Germ Theory of Disease"); Dr. J. P. Miller ("Phthisis, its Successful Treatment"); Dr. D. W. Prentiss (1. "Importance of Uniformity in the Pharmacopœia"; 2. "A Plea for Greater Interest in the Pharmacopœia on the part of Physicians"); Dr. R. Harvey Reed ("Irritation of the Capsule of Glisson"); Dr. W. L. Schenck ("Occult Causes of Disease"); Dr. James Tyson ("The Milk Treatment of Disease"); Dr. William H. Welch ("The Pathology of Myocarditis"); Dr. James T. Whittaker ("The Ætiology of Pericarditis"); Dr. James Wilson ("The Diagnosis of Tumors of the Anterior Mediastinum").

The sessions of the section will be held in Washington on the afternoons of Tuesday, Wednesday, and Thursday, May 6th, 7th, and 8th.

A CANDIDATE FOR A DIPLOMA.—A gentleman in New York (not a physician) lately received a letter from which we extract the following:

"Allow me to tax you with another matter for me, it is this, I was in the Drug business, in..... from 1833, to 36. Moved to..... Pa, 1844. Where some 12 of us, Physicians organized a *Refd. Med. ass.* and invited Dr. W. Beach, the great 'Med. Reformer,' of N. Y.—to visit, and give us a course of *Med. Lecture*, in the fall, of 46. & 47—at the close of them, gave each of us, a 'certificate' or 'Diploma,' as authorized to do by the Legislature, of N. Y. I was Pres. of that ass. While in St. Louis, Mo, some one stole them from my office, and one from the 'Hon. Col. of Phys. & Surgeons of Ohio, dated Oct. 1851. I have certificates, sworn to by the best men, that I had such certificates, some 2, or 3, years ago, perhaps longer, I wrote to Dr. Keath, Druggist, (Eclectic Pharm.), of your city, to call on Dr. W. Beach (if living), and get me a Duplicate. Dr. B. told him that he had the old Plate sent to Europe, (I think France), for a new one, & as soon as recd. he would send me one, since that time, I have not heard anything of it. Now what I wish is, for you to call on Dr. Keath, or Dr. Beach, (if he is still living), if dead, his old *Records or files*, will show when, & where, & to whom, such a course of Lectures were given, it was in Pittsburgh Pa. 1847. If nothing can be found of the above proceedings, then see the 'Gentler' of the 'Eclectic college,' of New York, city, and learn the best terms, on which I could get a Duplicate. I have Practiced the old school, & drug business for 10 years, then the 'Eclectic,' and 'Hom,' for 30 years. Was a surgeon, in the union army, and afterwards, Hospital, surg—settling up *Hosp. business* in Miss. & till 1871—and after that 'Health officer' of the city of..... Miss 10 years, in charge of, & lived in the city *Hosp.* Now would the faculty of the 'Eclectic college,' give me a Diploma, by Paying 'Graduating Fee,' I furnish all the above O. K. I can get a Diploma from other Institutions, but perfer it from there, as I have always reported myself as an Eclectic, of N. Y. I can furnish the *highest endorsements for character, and social standing*, to any *Kite. Templer* 'the enclosed card will show, 'acting'—'Capt. Genl.' of our cony, at this time. I know the college may ask an attendance of one course at college, giving credit for 2 yrs. I could not do that—am too old, 74 yrs. in May) and could not take the time. With such endorsements, or *certificate* or *Diploma*, I could secure a Possession, of *honor & profit*, a Duplicate, from Dr. Beach, would do all I want."

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884,

BY BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE III, PART I.

(Continued from page 377.)

Some Points in Encephalic Anatomy which are not Infrequently Overlooked or Misunderstood.

For the most part, the cælian parietes are easily determined. The postcornu and præcornu are obviously circumscribed by nervous substance excepting where they join

the cella; the mesocælian walls are enormously thickened as compared with the cavity, and there is no difficulty in recognizing the floor, roof, and sides of so much of the "fourth ventricle" as directly underlies the cerebellum. But at several other places the cælian parietes lose their massive character, and are apparently—perhaps in some places really—absent, so as to leave the cavities in free and direct communication with the outside of the brain, the encephalic *enton* with its *ecton*.

Several of the points involved in cælian circumscription appear upon the mesal aspect of the brain, and their discussion may be conveniently preceded by a brief consideration of all the parts there shown.

NOTE.—The reader who is not familiar with encephalic anatomy and development will do well to consult the series of figures in Lecture I (see the journal for February 9th and 16th).

Provisional tabular arrangement of the surfaces which constitute the mesal aspect of the hemiencephalon:

A. **Entocælian**, endymal or "intra-ventricular".

B. **Pseudocælian** (serous?).—Area septalis.

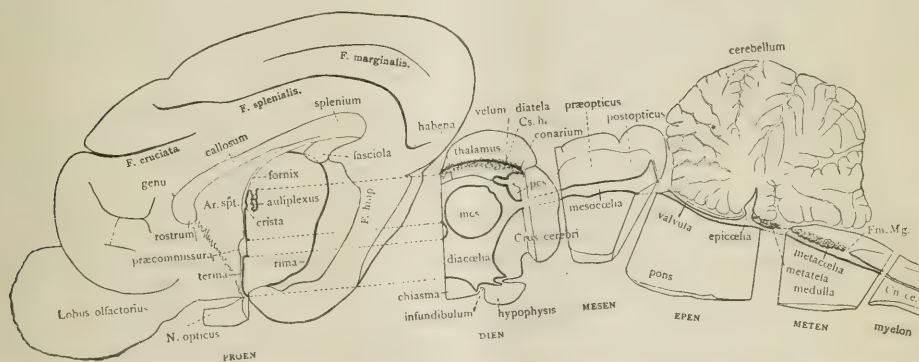


FIG. 11.—MESAL ASPECT OF THE RIGHT HEMIENCEPHALON OF A CAT, DIVIDED INTO ITS FIVE SEGMENTS: $\times 1.5$. Drawn by Mrs. Gage. (See this journal for Feb. 16, p. 178.)

Abbreviations: *apx.*, auliplexus; *Ar. spl.*, Area septalis; *cn.*, conarium; *Cn. ce.*, Canalis centralis; *Cs. h.*, Commissura habenarum; *F. hmp.*, Fissura hypocompae; *Fm. Mg.*, Foramen of Magendie; *hyp.*, hypophysis; *mcs.*, mediacommissura; *mcs.*, mesocælia; *pos.*, postcommissura. The pia and arachnoidea are not distinctly represented. The heavy black line represents the cut edge of the endyma, the lining of the cella, and its divided ends are joined by dots.

The curved, heavy line extending from near the tip of the temporal lobe to the fornix really represents only one margin of the rima, that which is formed by the fimbria. To be accurate and complete, a second line, representing the torn or cut edge of the endyma covering the tenia, or whatever, in the cat, corresponds thereto, should run parallel to it, and the two should be continuous at the ventral end. With this exception, the heavy line indicates the line of division between the endymal and other surfaces, between the entocælian and ectocælian surfaces of the brain. The irregularly oval area bounded, in the figure, by the rima, and the fornix and termina, and on which are printed the words *fornix*, *auliplexus*, *crista*, and *rima*, really represents an oblique cut surface, the plane of the section by which the dien (thalamus) was separated from the part of the proen (striatum) with which it was directly continuous. Beginning with the myelocal Canalis centralis, all of the encephalic cavities are represented, but only their dorso-ventral dimension can be indicated. The diacælia embraces the space dorsad of the mediacommissure as well as that which is ventrad. The lateral portions of the procele are, of course, concealed within the hemispheres, and not even the porta can really be seen from the meson. The aulæ, however, the mesal part of the procele, certainly constitutes the narrow space between the mediacommissure and the crista, and contains the auliplexus.

In the absence of shading, the various divisions of the ectocælian surface are not easily distinguished, but, in general, excepting with the proen, a single line etad of the heavy line representing the endyma indicates both the ectal margin of a cut surface and the cut edge of the investing pia, as, e.g., with the cerebellum and the diencephalic portion of the crus cerebri. Where there are two such lines, as, e.g., at both the dorsal and ventral sides of the meson, the one nearer the endymal line limits the cut surface and represents the divided pia, while the space between it and the ectal line represents the more or less curved and retreating, natural contour of the part. These surfaces and the mesal aspect of the hemisphere (excepting as otherwise specified in the accompanying Table) are covered by the vascular pia, which also dips into the fissures so as to cover the integumentary surfaces, and passes between the dorsal aspect of the dien and the ventral surface of the overhanging proen as the *velum* (*interpositum*). For the most part the pia itself is covered by the *arachnoidea*, which, however, does not follow the velum or the integral folds, and stops a little dorsad of the callosum. In an absolutely complete figure of the meson, therefore, at least the cut edges of those two membranes should be represented. The ragged line from the rostrum to the chiasma indicates approximately where the pia was reflected from one hemisphere to the other at the cephalic margin of the pseudocæle. The slightly curved line dorsad of the mediacommissure (*mcs.*), and running cephalad from the Commissura habenarum (*Cs. h.*), does not fairly represent the habena, which is really a low ridge, forming the boundary between the entocælian, mesal aspect of the thalamus and its ectocælian, dorsal surface. In a shaded figure the diatela (with the diaplexus) would appear extending dorsad and then mesad as the roof of the diacælia. The cut edge of the diatela alone now appears as a single line, as if fused with the lining endyma and the superposed velum.

The interruption of the metacælian roof at its caudal end designates the mesal "Foramen of Magendie" in accordance with the current belief in its existence; but I am not yet satisfied respecting it, as will be presently indicated.

C. Ectocœlian, or "extra-ventricular."

1. Natural. Commissura fornicolumnarum.

a. *Arachnoidal*.—Exposed surfaces of cerebrum, cerebellum, etc.b. *Pial*.—Intergyrar and part of interhemispherical surfaces.

2. Artificial or cut.

a. *Fibrous or Transcommissural*.—Callosum, chiasma, pons, postcommissura, precommissura, Commissura habenarum.b. *Cellular*.—Medicommisura.c. *Fibro-cellular*.—Medulla, optici, etc.d. *Peculiar*.—Conarium, crista, hypophysis.e. *Atrophied*.—Infundibulum, terna, Commissura fornicis (?), diatela, metatela, valvula.f. *Edges of divided membranes and plexuses*.

From the physiological standpoint, these surfaces might be divided primarily into *commissural* and *non-commissural*, but the foregoing arrangement is in accordance with the purely morphological purpose of the present course.

Endyma.—By this term is herein designated the lining of the encephalic cavities. For present purposes it is not necessary to discuss its precise nature, or whether the above word is the right one to use.* The cœlia are certainly lined throughout by something which adheres closely to the parietes, whether nervous or only membranous, and which is reflected from the parietes upon the intruded plexuses so that these latter are in the cavities only in the sense in which the kidneys and other abdominal viscera are in the abdomen. In fact, the endyma is closely comparable with the pleura and peritonæum, and, like them, consists of a parietal portion and a *visceral* portion, the two being continuous at the points of entrance of the plexuses (Figs. 29, 30, and 39).

Whatever view may be adopted as to the microscopic constitution of the endyma, its *continuity* is absolute and unquestionable, excepting—apparently—at certain points in the roof of the metacele, now to be considered.

Foramen Magendii.—It is commonly admitted that, in the adult human brain, the metatela (roof of the metacele or "fourth ventricle") presents three orifices, one mesal and two lateral, by which the cœliæ are in direct communication with the subarachnoid space.† As figured and described by Henle (iii, 2, 360, 361, Fig. 232) and by Schwabbe‡ (422, Fig. 256), the mesal is rounded and near the tip of the cœlia; the lateral are longer and irregular, and near the flocculus at each side. The former is also figured

* Whoever takes the trouble to compare the descriptions and definitions of the cœlian lining as given in standard manuals and medical dictionaries will probably—whether or not he adopts my provisional view of the matter—hope that some competent investigator may shortly determine the anatomical and historical questions involved.

† Since the arachnoidea passes directly from the dorsal surface of the meten to the caudal surface of the cerebellum, the space thus inclosed between the meten and the overhanging cerebellum constitutes a part of the "subarachnoid space." This may be understood from Fig. 14, although the membranes are not indicated. Of course, in so far as the metatela is covered by pia, the latter also must be perforated by the foramina in question.

‡ Schwabbe's "Nervenlehre" has but just been accessible to me (March 24th); otherwise earlier references to it would have been made.

in transection by Reichert (ii, 53, Taf. ii, Fig. 14) and in longisection by Quain (ii, Fig. 319), after Key and Retzius. Westbrook (I, 351) considers that the presence of an orifice is exemplified by the fact of material injected into the myelonal subarachnoid space reaching the encephalic cavities. Allen (474) and Gray (617) do not mention the lateral orifices, and the latter states that the mesal orifice "usually" occurs.

In the days of Helkiah Crooke, or even Solly, no especial surprise might attend the supposed discovery of any number of direct communications between the encephalic cavities and the exterior of the organ. Now, however, the presumption is that the cœlian parietes are continuous, and the *onus probandi* rests with those who affirm the existence of the foramina in question. Here, at any rate, is an imperfectly understood part of human anatomy.*

Pseudocœlia.—Since the "fifth ventricle" or "ventriculus septi pellucidi" is, from the manner of its development (Quain, ii, 347; Lecture I, February 16th, pp. 182 and 183), merely a portion of the interhemispherical interval which is intercepted between the callosum and the fornix, the continuity of the caudal ends of those parts closes the space completely in that direction; in man, by the extension of the rostrum toward the terna, its cephalic boundary is also completed, and the cavity, according to Quain, contains liquid.

In man, and perhaps some other mammals, the corresponding portions of the mesal walls of the hemispheres become, or remain, thin and translucent, and the morphologically inappropriate name *septum lucidum* was given to them together. Each is thus a *hemiseptum*, and in the cat their thickness is such that the adjective has no application.

To the mesal or pseudocœlian surface of each hemiseptum, Huxley (according to Flower, 13, 634) gave the name *septal area*, the technical form of what is *Area septalis* (Fig. 14, *Ar. spt.*).

Whether or not this surface is devoid of epithelium (as stated by Quain, ii, 347), it seems proper to separate it from the true entocœlian surfaces on the one hand and the ectocœlian on the other, if only to emphasize the fact that the pseudocœlia, although simulating the true cœliæ, is at no time in communication therewith.†

The existence of an opening between the fornicolumnæ dorsad of the precommissure and leading from the "third ventricle" to the "fifth" was formerly quite generally admitted, in the fœtus at least (Tiedemann, 278; Todd, iii, 675, 704), and is credited in some recent manuals ‡ (Heath,

* From the peculiar relations and adhesions of the parts, it is very easy to make artificial openings through the roof of the "fourth ventricle," and I have not yet satisfied myself as to the existence of the Foramina of Magendie in either the cat or man. In a fresh human brain, removed with great care by Mr. F. L. Kilborne, I find what seem to be natural orifices in these places, and have had them photographed; but I am not yet sufficiently certain of their boundaries to publish the figure or a detailed description.

† Perhaps this is the signification of Wiedersheim's text (p. 278), but the accompanying figure (210) distinctly ascribes to the "fünfte ventrikel" not only direct continuity with the "dritte," but also independent lateral and cephalic parietes!!

‡ Such an orifice between the columns is distinctly represented by Schwabbe (Fig. 306), but presumably through an overlooked blunder of the artist.

522, 525; Darling and Ranney, 449; Harrison Allen, 483; Gray, 639), notwithstanding explicit denials by Mihalkovics (131), Henle (162), and perhaps others. In the last edition of Quain the facts are stated correctly.

Several years ago I satisfied myself that no such communication exists in the cat or in mammals generally, and so stated on several occasions (**4**; **9**, 125; **14**, 540; Wilder and Gage, Fig. 117, Plate II, Fig. 4). Although confident, from "the nature of things," that any such orifice in man must be artificial, it is only recently that material has been at my disposal upon which I could demonstrate the continuity of the aulic parietes between the columns. Two of these preparations are shown in Figs. 51 and 52. In both, as is also the case in the cat (Fig. 14), the mesal portion of the cephalic wall of the aula just dorsad of the præ-commissure is a very thin and delicate lamina, like the rest of the terma ventrad of the commissure, and like the Commissura fornicis (in man) already described and figured. In a brain removed, preserved and dissected in the usual way, this lamina can hardly fail to be torn, and thus give rise to a belief in the presence of a normal orifice.

In this connection, and especially in view of the criticism just offered upon certain descriptions of the pseudocele, I desire to correct an error of my own. In the pub-

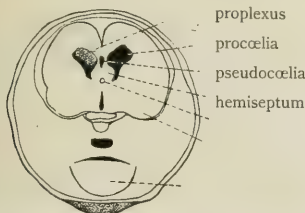


FIG. 49.—TRANSECTION OF THE HEAD OF A FETAL CAT: $\times 1.5$. Drawn by Professor Clieves. The plane of transection is just caudad of the crista and chiasma. The right propterus has been removed. The pseudocele is obvious.

lications above mentioned I reiterated a disbelief in the existence of any separation of the apposed hemiseptal surfaces in the cat such as would justify the admission of a pseudocele in that animal. The specimens upon which this opinion was based were alcoholic preparations of adult brains. In the transection of the brain of a nearly developed fetal kitten (Fig. 49) the hemisepta are separated by a very considerable interval, and the recent examination of a fresh adult brain discloses a perfectly distinct pseudocele. Nevertheless, I must continue to object to the way in which this cavity is represented by Mivart (B, Figs. 127, 129). Likewise, since, as shown in Fig. 14, the rostrum is much less prolonged than in man, the precise manner of circumscription of the pseudocele in the cat and the lower mammals generally requires examination.

Crista.—This is selected as an example of group *d*, because, while constantly present in the cat (see my papers, **4**, **7**, **9**, **14**, and Wilder and Gage, 476), it does not appear in the adult human brains examined by me, and has so far been observed only in the preparation represented in Fig. 50. In the cat, when fresh, it has an almost gelatinous

appearance, but becomes opaque in alcohol. It has not yet been examined histologically.

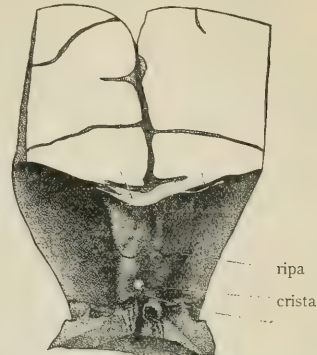


FIG. 50.—CAUDAL ASPECT OF PART OF THE FORNIX AND ADJACENT REGIONS OF A YOUNG CHILD. Drawn by Mr. Gage. The specimen is poorly preserved and imperfect, but shows (a) the *ripa* or line of reflection of the endyma upon the portiplexus and antiplexus, indicating the dorsal limit of the porta; (b) the existence of a mesal nodule apparently representing the crista of the cat, but not seen in the adult human brain; (c) the narrowness of the fornix so far as shown. The junction of the fornix with the thalami, constituting the ventral limit of the porta, is indicated by the torn surface.

Terma ("lamina terminalis s. cinerea").—This is selected as an example of group *e*. Its existence and continuity are now generally recognized, but I have never seen it represented otherwise than in section, and usually it is shown as if quite thick, whereas it is very thin and quite transparent. As constituents of the encephalic parietes, and perhaps resembling closely the earlier condition of all of them, the terma and valvula merit more attention than they are apt to receive as components of an organ devoted chiefly to mental and nervous action.

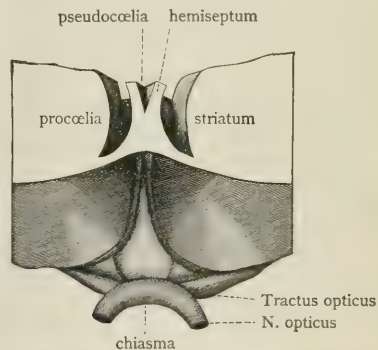


FIG. 51.—CEPHALIC ASPECT OF THE TERMA (LAMINA TERMINALIS S. CINEREA) AND ADJACENT PARTS OF AN ADULT HUMAN BRAIN. Drawn by Mrs. Gage. The terma is the convex, mesal region just dorsad of the chiasma. The shaded surfaces at the sides of the terma are cut, but are convex, instead of plane like the surfaces dorso-d of them. The word *striatum* is on the mass so named; *procellia* designates the cavity at each side, between the striatum and the corresponding hemiseptum.

Diatela, dorsal part of the diacelian parietes, or primitive "roof of the third ventricle."—In Quain (ii, 322) it is

correctly stated that "the third ventricle is roofed over by the epithelial lining of the cavities"; the implication is, however, that, but for the fold of pia constituting the velum, the roof would consist merely of the epithelium. There is no intimation of the primary existence of any proper diacelal roof, and the figure (291) of a transection of the diacele is not very distinct upon this point. In Gray (641) the epithelium is not mentioned, while in "The Anatomy of the Head" and some other works the *fornix* is described as constituting the "roof of the third ventricle." The transections by Reichert (Figs. 32-35) indicate, perhaps too distinctly, the separation of the fornix from the diacelal roof, for the presence and relations of the velum are not clearly shown. Certainly there is a general impression among medical men that the true roof of the "third ventricle" is the fornix, and that the velum and any possible epithelium are of no especial importance.

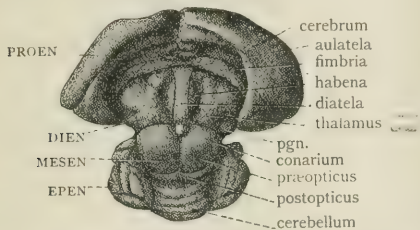


FIG. 52.—DORSAL ASPECT OF THE BRAIN OF A YOUNG RABBIT, DISPLACED SO AS TO EXPOSE THE "ROOF OF THE THIRD VENTRICLE." DRAWN BY PROFESSOR CLEAVES.

While fresh, the cerebellum was tilted caudad and the hemispheres cephalad, and the velum removed. The mesal margin of each thalamus is seen to be a marked ridge, the *habena*, and between the *habena* extends what seems to be the primitive diatela or diacelal roof, unpenetrated by the plexuses. The cephalic end of this roof covers the aula, and is hence called *aulata*, but the two are continuous, like successive portions of an artery. The diatela is shown in transection in Fig. 53.

The origin and perpetuation of this impression are to be ascribed in part to the manner in which the hemispheres are commonly torn up from the thalami, and partly to the non-recognition of the embryological facts that the mesal part of the fornix, like the callosum, is a later development; that the diacele was already circumscribed, and remains so when they are removed. It is true that in man and most of the higher mammals, in the adult state, the velum adheres closely to the primitive diatela, and sends intrusions through it in the form of plexuses; but in the frog these plexuses do not exist, in a young rabbit (Fig. 52) the diatela is seen to be uncomplicated, and even in the adult cat, by using great care, the velum may be pulled away, leaving the plexuses, of course, but without tearing the diatela from its attachments to the thalami; such a preparation was figured and described in 1881 (14, Fig. 10) and 1882 (Wilder and Gage, Pl. III, Fig. 10, pp. 460, 467, 477).

Cephalad, the diatela is attached to the fornix, and its epithelium is continuous with that which lines the aula and porte. The relations of the parts are indicated diagrammatically in Lecture I (this journal, February 16, Figs. 38, 39).

The lateral attachment of the diatela is along a line just dorsal of the habena. In the cat there is here a slight fur-

row, *Sulcus habena*, which I have not yet recognized in man. In general, however, in all mammals examined by me, the habena indicates approximately the line of continuity of the atrophied diacelal roof constituting the diatela with the hypertrophied lateral wall, thalamus. It thus also forms the boundary between the entocelal, endymal, mesal aspect of the thalamus and its ectocelal, pial, dorsal surface. This general morphological significance of the habena has been urged by me in several publications during the last four years (5; 9, 135; 12; 14, 552, Fig. 7; Wilder and Gage, 460, 479, Pl. III, Fig. 7).

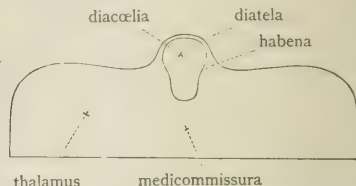


FIG. 53.—DIAGRAM OF A TRANSECTION OF THE BRAIN OF A YOUNG RABBIT; ENLARGED. This shows (a) the existence of a diatela or true diacelal roof independent of the velum and the fornix, which have been removed; (b) the continuity of the diatela with the lateral walls (thalami) through the ridges (habena); (c) the non-existence of the diaplexuses at this age of the rabbit.

Is the thalamus a constituent of the procelal floor? A full discussion of this morphological question must be reserved for another occasion.* The following is a summary of my understanding of the matter:

1. In most treatises upon human anatomy a portion of the dorsal aspect of the thalamus is described as forming part of the floor of the "lateral ventricle."

2. This idea is contrary to all the facts of embryology, and of the comparative anatomy of non-mammalian vertebrates.

3. In all the mammals examined by me, excepting Primates (man and monkeys), the margin of the fornix (fimbria) is in close relation with the striatum, with only space between (rima) for the intrusion of the proplexus. Hence the thalamus is wholly excluded from the procele.†

4. The brains of apes and monkeys have not yet been examined by me with reference to this point.

5. In man the fornix is relatively narrower than in most other mammals. Its margin (fimbria) is for some distance separated from the tævia at the furrow (*Sulcus limitans*) between the striatum and the thalamus. Consequently, a part of the dorsal surface of the latter appears to enter the procele.

6. In all cases, however, the procelal endyma is continuous over the intruded proplexus, and thence to the tæ-

* The subject was presented in Lecture III as delivered, and illustrated by preparations, photographs, and diagrams. The principal drawing, however, has been mislaid and can not be replaced in time for this article; indeed, so many points are involved that a separate article would be required for its satisfactory consideration.

† This was the case even in the brain of a hydrocephalous dog (described and figured in an unpublished paper presented at the meeting of the American Neurological Association in 1882), notwithstanding the pressure which had expanded the cælie and caused the liquor cæliarum to burrow into the substance of the hemisphere.

nia and so upon the striatum.* In some preparations this endyma is easily separable from the thalamus; when it adheres thereto, the line of rupture along the shallow groove (Sulcus choroideus of Schwalbe, Fig. 290) corresponding with the margin of the fornix, constitutes one of the *ripæ*.

7. The dorsal surface of the thalamus is thus in two divisions, pial or subfornical, and subendymal. The lateral margin of the former is the furrow just mentioned; its mesal boundary is the habena or its sulcus already mentioned. The mesal surface of the thalamus is truly entocellic; the lateral portion of its dorsal surface is pseudo-entocellic; its mesal portion, like all the other surfaces, is pial or ectocellic.

8. In representations of the dorsal surface of the thalamus, the distinction between the pial and the endymal portions should be indicated in some way, and with as much definiteness as is the distinction between the pial portion of the dorsal aspect and the endymal, mesal aspect.

9. Judging from the condition of the parts in embryos and in the lower mammals, this anomalous, apparent entrance of the thalamus into the procele may be attributed to a disproportionate lateral growth of the dien, by which the fimbria and the tænia, at first separated only by the rima for the entrance of the proplexus, are moved apart, the endyma, however, extending itself *pari passu* so as to retain its continuity over the thalamus.

10. When the thalamus is described as entering into the composition of the procellian floor, some qualification should be added. Strictly speaking, such entrance might as well be ascribed to the cerebellum or a part of any other segment.

11. In order that the human anatomist may be satisfied respecting the circumscription of the procele and the real exclusion of the thalamus therefrom, he should first recognize the segmental constitution of the entire brain; second, admit that the presumption is in favor of endymal continuity; third, study the brains of lower mammals; fourth, examine the human brain by other than the stereotyped methods.

(To be concluded.)

Original Communications.

ON

DUPUYTREN'S FINGER-CONTRACTION; ITS NERVOUS ORIGIN.

By ROBERT ABBE, M. D.,

SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

(Concluded from page 440.)

I present now briefly a group of seven other cases:

CASE V.—A retired physician, aged sixty-one, with no acquired or hereditary gout or rheumatism, and no traumatism that he remembers, began to have a contracting band in the

* This is intimated in Quain (ii, 324), but not shown in the figure (291) upon the opposite page. That the dorsal surface of the thalamus is extraventricular is also remarked in a note by Hadlich (J, 97).

right palm one year ago—which had been preceded by occasional pain in the same site for three or four years—with numbness and tingling, which latter abated when the band con-

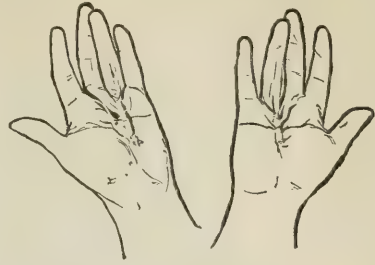


FIG. 6.

tracted, but the stitches of neuralgic pain would occasionally run up the forearm and arm. (See Fig. 6.) As his home was in a malarious section, he took quinine at the time and relieved his pain. But six months ago the left-hand ring-finger began to contract, and all the pain is now in that. The malady is progressing in that hand worse than in the other. He desires me to operate on him soon.

CASE VI.—W. H., a girl of seventeen. Has had since childhood a natural semi-contraction of each little finger, which she attributes to the habit of carrying a milk-pail on her fingertips, as she says a good many of the girls do in Germany and acquire the same. One year ago the right ring-finger inflamed over the back of the second joint, implicating the extensor tendon, and matter was let out. The joint was not involved, but on the palmar surface a band began to form, and has rapidly drawn down the finger until its tip lies in the palm. (See Fig. 7.) Without ether, I cut the band subcutaneously at two points over the palmar aspect of the proximal phalanx, released the finger, and nearly straightened it. Three months later there was fair power of flexion, without recontraction, and the patient was greatly pleased.



FIG. 7.

CASE VII.—A man, aged thirty-five, had never had rheumatism, though his father occasionally had it in his knees in bad weather. Four months ago he had a sprain of the right wrist, caused by shoving a case of goods. The usual periartthritis of sprains encircled the wrist and involved the palmar aponeurosis. The little finger drew down two months ago at a right angle so tightly that no stretching could extend it, showing a rigid band on the palmar surface and a lateral thickening. I divided the cord subcutaneously, and the outside lateral band, and brought the finger nearly to complete extension.

I watched him for some time, and the flexion power returned as fast as the improved condition following the sprain would allow.

CASE VIII.—Catharine S., aged sixty-five, with no hereditary or acquired rheumatism. Contraction of the palm of the left hand began two years since, with the formation of ridges and dents in the palm, without pain. Since then a ridge has formed along the course of the little-finger tendons, and cords can be felt, but are not conspicuous, along the middle and ring fingers and the thumb, also between the bases of the index and the thumb.

There has been a burning sensation in the palm, but no neuralgia.

The right hand became affected just after the left, but the contraction only involves the fascia going to the ring and little fingers.

CASE IX.—Daniel C., aged fifty-two, a butcher. Four years ago he began to have puckering of the right palm over the ring-finger tendon. For two years there had been a tingling sensation in the little-finger and the adjacent side of the ring-finger tendons, but no neuralgia. During the four years, however, there has been a sort of writer's cramp of the thumb and the



FIG. 8.

little and ring-fingers of that hand. After attempting to write for a few moments, they stiffen up and get so cramped that he has to drop his pen and pull them straight. It only comes on in writing or prolonged grasping, and never comes elsewhere. The ring and middle fingers now have palmar cords and puckered skin. (See Fig. 8.) He never had rheumatism. He can assign no cause for the trouble, and, as it does not disable him from his duty of watchman, he refuses an operation.

CASE X.—Mr. F. B., aged sixty-one. His father had gout in his foot frequently during the latter part of his life, and his sister has enlarged rheumatic joints. One brother has a drawing down of the little finger dating from two years ago.

The patient never had rheumatism, but has had the following interesting form of neuralgia: For three or four years he has had numerous attacks of pain lasting ten days or so, extending from the vertebra prominens down each shoulder and each side of the neck to the elbow, relieved by folding the arms tightly and squeezing them, or by pressing on the shoulder.

Again, every month or six weeks for the past three or four years, the intervals being longer in summer, he has had attacks of sudden neuralgia in the right palm, repeated every few minutes for several hours, generally at night, eased only by pressing the sound thumb into the affected palm. The pains have somewhat the character of those of locomotor ataxia. They have never occurred except in the right palm, and have not been dependent on indigestion, the weather, or other apparent cause.

Again, for two years past he has had occasional neuralgia at these points in the right leg and thigh, sharp at first, but disappearing in from three to six hours, recurring in two or three months, usually at night; and, lastly, he has for five years had hyperaesthesia of the back, so that after a bath, if one should rub his back with a towel, it would give him severe pain, while pressure gave none.

His spine is not tender: his nutrition is fair; and there is no evidence of locomotor ataxia.

He was treated in 1865 by the late Dr. Van Buren for secondary syphilis, but has never had a sign of it since.

His right hand shows two dense contracting bands of the ring and little fingers, drawing them over somewhat, and existing from six to seven years. The left has three contracted bands—to the ring, little, and middle fingers—in the palm, well marked, but not flexing the fingers.

He is able to support himself by light work, and will not take time for treatment at present.

To what conclusion does the study of these cases bring us?

One will notice, first of all, a decided prominence of

nervous manifestations in the majority of these cases resembling spinal reflex action, and I will venture to assume the following working hypothesis as capable of explaining fully the symptoms observed in this disease:

First, A slight traumatism, often entirely forgotten.

Second, A spinal impression produced by this peripheral irritation.

Third, A reflex influence to the part originally hurt, producing insensible hyperaemia, nutritive tissue disturbances, and new growth, shown in the contracting bands of fascia and occasional joint lesions resembling subacute rheumatism.

Fourth, Through the tense contractions, a secondary series of reflex symptoms, neuralgias, and general systemic disturbance.

If we can prove these, it will give, to my mind, an agreeable substitute for the now commonly accepted theory of gout, a blood disorder, as a cause.

The disposition of the profession is to regard any joint inflammation of an acute or subacute form as of rheumatic or gouty character—a sudden accession of lactic acid, uric acid, or other chemical irritant. I desire to call attention to the nerve theory of acute rheumatism set forth by Dr. J. K. Mitchell, of Philadelphia, in 1831 and 1833, and afterward elaborated by Froriep and Canstatt, which had for its basis a valuable series of observations on such cases as sudden seizure with articular rheumatism in patients with partial paralysis from spinal injuries, Pott's disease—with irritation of nerve roots, hemiplegia with central irritation, and finally a great number of acute rheumatism cases magically relieved by spinal counter-irritation, and depletion over the cervical or dorsal region, according to the limbs affected. This was the basis for the theory, now accepted, of hemiplegic arthropathies and those sometimes seen in myelitis and spinal tumors, and, finally, the more chronic forms of joint disease of locomotor ataxia.

S. Weir Mitchell says the local peculiarities of spinal arthropathies will not enable the most acute observer to distinguish them from ordinary types of rheumatism, while Charcot says the only clinical characteristic distinguishing them from common rheumatism of the joints is their limitation to the joints of the parts affected with palsy. Mitchell, again, says that wounds or any form of nerve lesions can produce, apparently, acute articular rheumatism.

With this new light, we must take exception to that point in the argument for the gouty origin of Dupuytren's contraction, that rheumatic attacks set in sometimes after the operation for its relief. As my Cases II, III, and IV show, the rheumatism depended on the peripheral irritation of the cutting, stretching, and forced extension, while the preceding attacks had been caused by the presence of the tight contracted palmar band.

Again, Brown-Séquard says: "The peripheric signs of nerve irritation include contraction of muscles, referred sensations, pain, burning formication, etc., and altered blood supply."

You will remember that in Case IX the patient had marked writer's cramp, with tingling sensations, during the four years of the contracted fascia. In Case VII there

was a burning sensation in the palm. In Cases I, II, III, V, and X, there were most important and aggravated neuralgic symptoms. Whether these were due to peripheric irritation of nerve filaments secondarily involved in the contraction, or to an altered central disturbance consequent thereon, each may judge for himself. But what can we say for the extraordinary relief from the rhachialgia and cervico-brachial neuralgia in Cases I and II, that had defied the most skillful treatment, but yielded at once to the removal of the peripheral cause when the bands were cut? Or the improvement in health and entire relief from articular rheumatism in the hands in Case III, during a year and a quarter since the operation?

There is in my mind little doubt that the local contraction is responsible for many of the symptoms for which it has been attributed to a gouty origin. But it will be said by the defenders of the theory, Why does it so often happen that no traumatism can be assigned to start the trouble? I would call attention, *per contra*, to the cases in which it does happen, as in the typical case No. IV, where a cutaneous laceration preceded the contraction, and in Case VII, where an arthritic sprain caused it, as well as in the very first recorded case, that of Dupuytren's wine merchant whose strained palm was the cause. We are always liable to receive pricking, violence, and over-straining here, and it may be only on the thousandth occasion that the nerve filament will be involved which will set up this trouble—just as tetanus follows in only a small proportion of nerve lesions.

Finally, the argument that the symmetry of the affection (so well shown in Case IV and others, where absolutely the same parts of each hand were contracted) goes far to prove a gouty or blood disorder loses most of its weight when we draw attention to the frequent cases of sympathetic ophthalmia. An eye that has been injured or operated on in the ciliary region is quite likely to be followed by destructive inflammation, beginning in exactly the same situation in the well eye.

Ophthalmologists agree in attributing to the ciliary nerves the transmission of irritation to the brain center, and thence reflecting it along the corresponding nerve to the same situation in the opposite eye. In the hand we see the "labor insults," or traumatisms by pressure and so on, occurring naturally on the little-finger aspect of the palm, the cutaneous supply of which is from the ulnar nerve, reflected in a few months to the opposite hand, usually in the same position. These minor injuries are mostly forgotten as soon as made, though their effects remain.

Regarding the frequent occurrence of a family history of gout in the subjects of this affection, Dr. Keen notes that, in one hundred and five cases which he finds recorded, mention was made of its presence or absence in only forty-eight, and of these it was said to be present in forty-two, absent in six. Certainly no such proportion as $\frac{4}{8}$ of the cases are gouty, or else the marked cases I have reported would have shown some verification of these statistics. It is probable, indeed, that in the fifty-six cases in which it is not mentioned it was mostly absent, and therefore unnoticed. Adams, whose experience entitles his opinion to the greatest

weight, recently adhered to his judgment of its gouty origin in discussing the paper of Mr. Noble Smith before the Royal Medical and Chirurgical Society, while Mr. Smith, who had personally looked over some seventy patients having this affection, found the evidence was against that theory. In this opinion he was indorsed by the president of the society, Dr. George Johnson. The theory of traumatism was preferred. The seventy patients examined by him were found among seven hundred elderly people of the working classes, and included all degrees of the same trouble. Mr. Adams's *clientele*, on the other hand, is among the upper classes largely, where gout is an almost universal legacy. In America, typical gout is comparatively rare, but rheumatism very common. In a word, it seems reasonable to think that, in considering any malady, be it cataract or enlarged prostate, or anything else, we should, on diligent inquiry, find a very large proportion of patients whose relatives or ancestors had been subject to rheumatism in this country or gout in England.

Mr. Noble Smith says also that "contraction of the palmaris longus was almost constantly present in his cases, and it was thought this might indicate a condition of nerve irritation." This is quite significant in view of the theory I have advanced.

The presence of sugar in the urine in some cases has recently been suggested by a French reporter as a possible cause. I have examined it in only four of my most marked cases, and find no sugar; I presume its occasional appearance may be classed with transient glycosuria, which Charcot says may come from peripheral irritation, as in burns of the surface.

The favorite method of operation is that of multiple subcutaneous incisions practiced by Adams, of London, resorting to just as many as are needed to break up the continuity of the contracted band.

Mr. Adams recently said he had been obliged to make eighteen on one hand. In Case III, I was compelled to make twenty-five before the contractions were overcome, every finger being involved, while in Case IV twenty were made in each hand.

I think the number makes little or no difference, if they are done carefully. Antiseptic dressings will protect from all danger.

From my experience, one important suggestion may be drawn. Do not keep the hand over-stretched after cutting by binding it too tightly on splints. I believe the general fascial inflammation following is due to the nerve irritation incident to this on the principle of "*ubi irritatio, ibi fluxus*," and that we should do better to keep the hand only so far extended at first as not to give pain.

I have not resorted to the method of operating practiced by Busch, of Bonn—lifting a long V-shaped skin-flap in the palm, dissecting out the contracted bands, and allowing the wound to granulate. With antiseptic precautions it would be safe and may present advantages, but I judge, from the limited experience I have had, that Adams's method leaves nothing to be desired.

THE HEALTH OF CINCINNATI.—It is said that the recent flood has improved the health of Cincinnati by cleansing the unhealthy districts.

SUPER-ALIMENTATION, ARTIFICIAL ALIMENTATION AND GAVAGE, AND THE EMPLOYMENT OF ALIMENTARY POWDERS, ACCORDING TO THE METHOD OF DR. DEBOVE.

By HENRY B. MILLARD, A. M., M. D.,

MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK; VICE-PRESIDENT OF THE NEW YORK MEDICO-CHIRURGICAL SOCIETY; HONORARY MEMBER OF THE SOCIÉTÉ ANATOMIQUE DE PARIS, ETC.

(Continued from page 432.)

AMONG other cases treated by Debove at the Bicêtre were the following:

Everard, who entered the infirmary in the service of Dr. Bourneville. Extreme weakness; profuse sweats; hæmoptysis; moist sounds at the apex of each lung; expectoration daily of 200 grammes of muco-purulent matter. To-day he does not cough nor expectorate; strength has returned, and he works the entire day. Auscultation at the summit of the lung gives only a dry sound, not easy to define. The precaution was taken of having this patient photographed before his treatment, so that his appearance before and after it might be compared. Gain in weight, 10 kilogr.

Metzger, who had an attack of caseous pneumonia following acute pneumonia, in which resolution did not take place. In the two lower thirds of the right lung there was intense bronchial souffle; patient was feeble, and expectorated daily 140 grammes of purulent matter. Under the influence of super-alimentation, all the local and general phenomena disappeared, and 16 kilogr. were gained in weight in two months. Is now quite well. This is not presented as a case of tuberculosis, but is, nevertheless, one of interest.

I saw at the hospital of la Pitié, in August last, with Dr. Debove, a number of cases of phthisis which had been benefited as much as those just presented. Their histories were given me by the *interne*, and I examined the lungs thoroughly and questioned the patient in each instance.

One was that of a man with cavities in the upper part of the left lung. There had been great emaciation, crepitant râles, sweats, cough, etc. At the time of my examination the moist sounds had almost entirely disappeared, there was but little cough, and the patient was gaining flesh and strength.

Another was that of a girl about twenty-five years of age. There had been hæmoptysis, sweats, abundant mucous râles, and expectoration. These had nearly disappeared.

Among other cases than phthisis was one of chronic diarrhœa of long standing; under the treatment a cure was rapidly progressing. Another was a case of anorexia and vomiting, in an hysterical girl, who was being well nourished by the sound. I used the sound in this case myself, preceding it by *lavage*. Another, of vomiting, was the sequel of bilious fever. This patient also was nearly cured, and was taking, in addition to the powder of beef, one or two ordinary repasts daily.

After this outline of the character and effects of Dr. Debove's treatment, I will now describe more fully the character and preparation of the powder to be employed, its therapeutic and physiological effects, etc. Debove prepared it by selecting beef as free as possible from fat, separating

it from the tendinous portions, and passing it through a chopping machine, making a coarse paste, which was then spread on plates and dried in stoves at a temperature of 90° centigrade (226° F.). The beef, hardened by drying, is triturated in a mortar, and then passed through a fine sieve. The powder thus prepared is impalpable, dry, and can be preserved indefinitely, if carefully kept from humidity, and is almost without odor. To make one pound of the powder, about six pounds of fresh beef are required, and one pound of the powder is equal to at least four of pure muscular fiber. Of this, as much as 400 or 600 grammes have been given by Debove daily, the latter quantity being equal to five pounds of beef. This is *literally* super-alimentation, and, unless provocative of some disturbance, could scarcely fail to bring about all the changes attendant upon thorough nutrition. Such large quantities as 600 grammes are, however, not often attained, and only, I believe, by the sound.

Simple as its preparation seems, practically, it does not appear so. I was shown at la Pitié numerous samples made by various chemists; they were either strong-smelling, nauseous, or unpleasant to the taste; some had putrefied, and showed under the microscope numerous living organisms; one, made from horse-flesh, had a repulsive odor, but not more than one of the other preparations made from beef.

That the essentials of purity and freedom from disagreeable taste and odor are important, especially when the powders are used for direct alimentation, is evident when it is considered that they are usually administered where there is antipathy to food, with perhaps nausea and vomiting. Dr. Debove has used exclusively for a considerable time a preparation made by J. Ferré, a distinguished *pharmacien* of Paris; he considers it perfectly satisfactory, and even better than that made by himself, and I have seen no preparation equal to it. I have had a package in my possession for six months, and, although it has for two months laid open in my office, it has undergone no deterioration. I have used in my own practice about 150 boxes, each box containing eight ounces, most of which was imported at my request by E. Fougère & Co. A possible objection to its general use is the price at which it must be sold. The retail price in Paris being five francs, it has to be sold here at retail for about \$1.50. It must be considered, however, that eight ounces of the powder are equivalent to about two pounds and a half of the fillet of beef, which would not be retailed for less than fifty cents a pound. M. Ferré has recently prepared costly machinery for making it on a large scale, and the price may possibly be reduced. There are several *poudres de viande* made by reputable chemists in Paris and advertised in the French medical journals, and I am unable to say that some of them may not be as good as the *poudre de viande de Favrot* (Ferré being Favrot's successor), but at least I have seen none as good.

There is no doubt, however, should the method of super-alimentation by the powder of beef become greatly employed, that some of our manufacturing chemists at home will succeed in making an equally good powder, and, the price not being enhanced by high duties, etc., that it can be sold here as cheap as in Paris.

The prominent advantages of this powder over other substances used in super-alimentation are, first, as regards beef, raw or partially cooked, finely chopped up; this is usually repulsive to the taste, and is liable to produce tænia. Second, as regards the employment of beef juice; this is an aliment very weak in nutritive principles, and is the least nourishing portion of the beef, containing only the mineral salts, a few soluble organic constituents of the beef, and some nitrogenized compounds. The powder, on the contrary, contains all the nutritive elements. Third, the digestibility of the beef is increased by each particle being so minute as to be brought in contact with the gastric mucous membrane, and a greater secretion of gastric juice results. Again, a difficulty is experienced in giving, in certain diseases, a large quantity of food, on account of its bulk. But of this powder there can be given by the sound, with two or three quarts of milk, as much as 600 grammes, with six to ten eggs, daily. Another and great advantage is the facility with which adulterations can be detected. To test it, it is necessary only to examine the powder under the microscope with an objective of 250 to 400, when the muscular fibers, more or less torn or broken, with their longitudinal and transverse striæ, are easily recognized. Should foreign substances, as the powder of liver, lentils, starch, rice, etc., have been added, they are easily recognized. Finally, its agreeable character and the facility, under proper restrictions, with which it can be taken for a continued length of time, and its great nutritive value, which will be shown as I proceed.

I have not been adverse to the employment of other nutritive powders, but, however great their merits, I have found none suitable for artificial and super-alimentation but the *poudre de viande*. Reed, Carrick & Co. prepare a powder of casein, beef, and gluten, and, though it is carefully prepared, and though I have given it with the same precautions as Ferré's *poudre*, I have not found it in many cases easy of digestion. Among other alimentary powders may be mentioned the powder of milk, the powder of lentils (cooked), the powder of beef and lentils combined, and the Revalenta Arabica, which is composed largely of cooked lentils. Dr. Guerder, of Paris, has introduced, and recommends as superior to the beef powder, the powder of defibrinated beef's blood. Dr. Guerder's theories, mode of preparation, etc., may be found in the "Therapeutic Gazette," November, 1883, and February, 1884.

The powder of liver has been employed in the French hospitals, but its odor and flavor are objectionable.

By desiccation of beef according to Debove's method, it should lose none of its nutritive properties, but only its liquid principles, and these possess but slight nutritive value. According to the analysis of Berzelius, the flesh of beef contains 77 per cent. of water, consequently a gramme of the powder would equal about four grammes of fresh beef.

As regards the digestibility, compared with that of finely minced raw beef, Dr. Robin* made extensive experiments as to the artificial digestion of these two, and found

that the powder was digested three times as rapidly as the chopped beef. This is confirmed by Debove.

Broca ("Progrès médical," Oct. 14, 1882) says that he has shown by experiments that it is digested five times as rapidly as ordinary beef. The fine particles which compose it absolve the weak stomach, as it were, from the necessity of grinding it, its extreme divisibility facilitates the impregnation of the smallest particles by the gastric juice, and peptonization is more easily accomplished.

As to the assimilation of the powder and its furnishing the organism with nutritive principles: that both these are accomplished is shown by certain cases in which records were kept, mostly at the Bicêtre; the cases of Everard and Metzger, already given, show a great increase of weight. Numerous other cases also show this, and a notable increase in the amount of the urea excreted.

Among the cases showing an increase of urea are the following:

André (Bicêtre). Treated by Dr. Debove; had had profuse hæmoptyses, daily expectoration of 35 grammes of purulent matter; it was impossible for him to sit up an hour; now neither coughs nor raises; sleeps well; has no more sweats, and works all day. The coarse râles at apices of lungs have been replaced by dry sounds. Gain in daily amount of urea excreted at the end of ten days, 10 grammes.

Same service. A tailor. *Tuberculosis. Super-alimentation by Gavage*.—Average quantity of powder of beef for thirty-four days, about 300 grammes. The patient also took milk, and, as soon as the appetite had returned, any other food he wished. Gained in weight in thirty-four days, 3 kilogr. Urea increased from 35 to 73 grammes daily.

Simple Anorexia (Bicêtre).—Marie W., aged four years; imperfectly developed; weight 12 kilogr.; complete loss of appetite, taking food only by force. Direct administration of the powder with rum, about 10 grammes being given daily; an increase of nutrition being brought about, an appetite for other food returned. Powder administered daily, however, except at the end of two months, when it seemed to produce flatulence. At the end of ten weeks she had gained 4 kilogr., and her appetite had returned.

Chronic Diarrhea (Bicêtre).—Marie, coachman, aged sixty-six. Diarrhea had existed for eighteen months. Treatment commenced November 22, 1882. There were great debility, sweats, painful digestion, and intolerance of food. Weight, 44 kilogr. Fifteen grammes of the powder three times daily; quantity increased gradually to 90 grammes a day; no other food except a little milk at first, and afterward soup. From December 17th he took an ordinary meal daily, in addition to the powder. By November 27th the stools had gained in consistence and the sweats disappeared. December 5th the strength had greatly increased, the appetite returned little by little, and by the 17th of December he was able to take two meals daily with the other patients. Only one evacuation daily. Powder always given, but only once a day now. January 23, 1883, he was dismissed cured, having gained in weight 11 kilogr. *No medicines were given.*

Chronic Ulceration of Stomach, followed by Tuberculosis.—Carjat, aged fifty-four. Cavern in apex of left lung. Hæmatemesis, sweats, and cough. Treated by direct alimentation; sound not used. Three litres of milk, six eggs, and 180 grammes powder of beef used at first. In fifteen days the quantity of the powder was increased to 300 grammes. By this time the weight had increased one and one fourth kilogr. Six weeks

* See Robin, "Des poudres alimentaires et de l'alimentation artificielle," Paris, 1882.

later he had gained two and one half kilogr. more, and the ulcer and phthisis seemed cured.

The details of the treatment of this case, pathological conditions, etc., are of much more interest than the mere increase of weight, and, inasmuch as recoveries from diseases of a character to produce emaciation are invariably followed by increase of weight, it will not be necessary for me to present other cases illustrative of this.

The cases, however, show in a general way what may be derived from the powder when no other food can be tolerated. There may be instances in which it seems applicable where it would prove useless, but I believe that in the majority of instances in which it is appropriate it will, if properly administered, be beneficial.

Dr. Amanieux, *loco citato*, endeavors to show that the powder can always be given without the sound. That it can often be done I know from experience; but to insure the ingestion of large quantities, to *super-nourish* (*sur-alimenter*) the patient, the sound must in some cases be used. As the simplest method, however, the direct administration may at first be tried. The digestibility of the powder and the ability of the patient to tolerate it depend greatly upon the manner in which it is prepared.

The simplest expedient which can be used is evidently water. If this be employed, it should be dropped, hot or cold, upon the powder, and stirred or pressed with the spoon so as to make a homogeneous paste; the water can then be added little by little until the mixture is of the consistence of cream. If these precautions be not taken, the mixture contains numerous fine lumps, more difficult of digestion and distasteful to the patient. Powdered sugar may then be added to suit the taste, and the mixture flavored with a little rum, cognac, essence of punch, or vanilla. I have found Angostura bitters with sherry very acceptable. The mixture resulting from its preparation with milk is smoother, but, as Debove says, "there are patients who can not get down three or four times daily a bowl of cream." For such patients water may be used, a greater amount of smoothness resulting from mixing the powder first into a compact mass with the yolk of an egg. A teaspoonful or two of black coffee gives a pleasant flavor, and for children an equal part of cocoa can be added.

Patients sometimes complain that it leaves a glutinous feeling in the pharynx; in such cases a little light red wine may be swallowed. It is better to make the mixture so it can be taken in two or three swallows. All these are apparently trifling precautions (*petits soins*). It is necessary, nevertheless, to observe them.

Its use may be commenced in moderate doses, as, for instance, 10 to 25 grammes in the morning; it then serves very well the place of breakfast. Other food, however, as tea or coffee, may, if the patient wish, be taken an hour or two after it. Should the patient be unable to digest other food, as much as 300 grammes of the powder (equal to 38 oz. of beef-broth) can often be taken daily. It sometimes, however, at first produces diarrhœa, and often, where it has been taken for several days, the stomach seems to become intolerant of it and not to digest it readily. In such cases I diminish the doses, or intermit its use for a day or so; and,

where it can not be otherwise taken, I resort, if the patient's consent can be obtained—which is not always possible in private practice—to the sound. With proper care, however, I have given the powder in full doses by direct administration for several weeks consecutively. Nevertheless, there are cases where this is impossible, as we all know how the stomach tires of a uniform regimen; and then the tube becomes necessary.

I can not here enumerate more than a few of the most striking cases treated in the French hospitals, nor present more than a digest of them. Some of them, however, I will give, selecting those as varied in their character as possible, and add my own experience. In addition to the cases already presented may be cited the following:

Hysterical Spasm of the Pharynx. (Hôpital St. Antoine, service of Dr. Dujardin-Beaumetz.)—Angèle L., aged fifteen. Admitted August 8, 1882. Anorexia to such an extent that in March, 1882, no solid food could be taken, and for the last fifteen days has been unable to retain liquid food. Upon examining the patient, she was found to be greatly emaciated; there were rhachialgia, mastodynia, *clou hystérique* of the head, and cutaneous anesthesia of both sides. When she attempted to swallow pure water it was rejected by a spasm of the pharynx. The tube was resorted to, and, to the surprise of Dr. Beaumetz, entered without difficulty. The stomach being washed, 20 grammes of the powder were introduced in a little milk; no vomiting. By the 11th of August there were administered daily 300 grammes of the powder and a litre of milk, but it was not until the 16th that she could take *directly* a little milk without vomiting; she then took a cupful. (On the 14th she had the first natural movement of the bowels.) On the 24th artificial alimentation was discontinued, 150 grammes of raw beef, with two eggs, being taken. September 9th she was dismissed cured.

Locomotor Ataxia, with Vomiting. Direct Alimentation. (Bicêtre, service of Dr. Debove.)—Lépreux, aged forty-one, confined to his bed. Admitted December 27th. For several weeks severe cramps in the stomach, anorexia, and frequent vomiting of food. Seventy-five grammes of the powder were given by direct administration in one day, and well digested. To January 23d this amount has been taken daily without the least repugnance or derangement of the digestive tract. No other nourishment except a little milk, wine, and soup; patient has experienced, from the first day of treatment, none of the gastric pains. Strength has returned in a very appreciable degree.

Tuberculosis, with Diarrhœa and Vomiting. Super-alimentation by the Tube. (Hôpital St. Antoine, service of Dr. Beaumetz.)—B., a Polisher, aged twenty-seven. Admitted July 4th. For nearly a year there have been cough, night sweats, and emaciation. For several days there have been diarrhœa and vomiting, with the paroxysms of cough. No appetite; moist sounds at summit of left lung; at apex of right lung a cavity; generally diffused bronchial râles. Weight, 56 kilogr. July 6th, 100 grammes of the powder administered by the tube, with half a litre of milk; no vomiting. July 9th, a litre of milk and 200 grammes of powder given. 13th, vomiting and sweats absent. Weight, 57 kilogr. From the 19th, 300 grammes of powder, with a litre and a half of milk, daily, were given by the sound, without any inconvenience to the patient. By July 30th, in addition to the powder he took two good meals daily; has resumed work. August 5th he weighed 59 kilogr.; obliged to stop work; cough always troublesome, but much less than at first.

Tuberculosis. Direct Alimentation. (Bicêtre, service of Dr. Debove.)—Roche, aged thirty-two. Admitted November 19,

1882. Had been ill for two years. Has had evening fever, night sweats, hæmoptyses, and colliquative diarrhoeas. These symptoms all existed on admission; there were great debility, bloody expectoration, inability to sit up, and extreme repugnance to and intolerance of food. Weight, 48 kilogr. Although the minutest details of treatment are given, I will only say here that by January 23d he was able to take 200 grammes of the powder daily, together with other food, was able to work in the laboratory, respiration was better, and cough almost gone; sweats disappeared, and but little expectoration. Weight, 58.4 kilogr., a gain of 10 kilogr. in about ten weeks. The powder was given, diluted with sweetened water and with a little rum. The patient was not reported as cured.

(To be concluded.)

SARCOMA OF SYNOVIAL SHEATHS.*

By THOMAS M. MARKOE, M. D.,

PROFESSOR OF THE PRINCIPLES OF SURGERY IN THE COLLEGE OF PHYSICIANS
AND SURGEONS; SURGEON TO THE NEW YORK HOSPITAL.

DURING the past four years several cases of disease of the synovial sheaths in the sole of the foot have presented themselves to me, the nature of which I failed to comprehend, and the gravity of which I did not appreciate, till the results, which I propose to relate in this paper, afforded the data for a correct judgment as to the nature, and some help at least toward a correct diagnosis, of the affection. The disease which I propose to describe to the society must, I think, be a rare one, as I have seen only the three cases here recorded, and perhaps the best way of introducing the subject will be to describe the last case which has come under my notice.

CASE I.—A. B., a middle-aged man, apparently in excellent health, presented himself at my office during the spring of 1883 for advice concerning a swelling which had slowly developed in the sole of his foot. He said that about two years previous he began to suffer aching pain in the part which he could not attribute to any strain or bruise. The pain was principally felt when standing or after walking too far. About eighteen months ago he first noticed a fullness in the sole, most marked under the metatarsal bone of the great toe, but extending along the sole up behind, and a little distance above the internal malleolus. This extension from its original seat had taken place very slowly, and he thought was still going on. By reason of this swelling the foot has gradually become so disabled that he can scarcely walk at all without a crutch, and his sleep at night is much disturbed. He feels tolerably well in all other respects, but the condition of the foot completely disables him. On examination, a swelling was found occupying the inner half of the sole, and extending round the internal malleolus up a little distance above that prominence, where it terminated somewhat abruptly. The swelling was tolerably firm, but yielding to pressure in such a way as to convey the idea of a fluid or semi-fluid substance contained in a firm and rather tense cyst or sac. This idea was strengthened by an indistinct sense of fluctuation which could be felt at different points of the swelling, and was sufficiently distinct to have induced the gentleman who had charge of the case to aspirate the tumor. No fluid was obtained. The tissues surrounding the swelling seem to be in a perfectly normal condition, and no inflammatory features have at any time been noticed.

After a careful examination of the case I pronounced a

very doubtful diagnosis, and added a prognosis which I said might be very serious, including in the future a possible amputation, and, what I did not say to him, however, a possible fatal termination. My reasons for this gloomy prognosis were drawn from my experience in two previous cases which I now propose to relate.

For the clear understanding of what I am presenting to the society, I ought, perhaps, to recall a few points in the anatomy of the parts involved. It will be remembered that, as the tendons about the wrist and ankle pass under their annular ligaments, they are contained in fibrous canals, which hold them firmly in their position and afford them a fulcrum, if we may call it so, against which the tendons act in the varying positions of flexion and extension of the hand and foot. To facilitate the play of these tendons, the fibrous sheath is lined by a serous, or rather a synovial, membrane, which at varying points is reflected from the surface of the sheath on to the surface of the tendon. This arrangement produces the usual closed serous sac, through which the tendon, covered by its layer of serous membrane, plays with a freedom from friction which is much increased by the smooth lubricating synovia which is secreted from its free surface. In the ankle these synovial sheaths commence a little above the malleoli, and extend forward into the sole to a distance varying with the point of insertion of the tendons they accompany. The one accompanying the extensors of the foot and the flexors of the toes is, it will be remembered, rather more extensive than the rest, and passes round the internal malleolus into the sole, extending quite far forward, dividing into a compartment for each separate tendon as it goes toward the distal end of the metatarsal bone to be inserted into the phalanx. It is well known that these synovial sheaths are subject to certain diseases, in which the synovial secretion is increased and seriously altered. These diseases give us the usual swellings along the course of the tendons with which we are all familiar, which swellings may contain either pure serum, or thicker fluids variously modified, or fluid containing semi-solid particles in the shape of rice grains or melon seed, and various other modifications of concrete fibrin. All these cases present one common feature, viz., an elastic, somewhat tense swelling, which gives a feeling of fluctuation which is more or less distinct according as the contents are fluid or semi-solid, the walls of the sac thick or thin, and the distension of those walls great or slight. The recognition of a distended synovial sheath is a matter of no great difficulty, but the appreciation of the nature of its contents is not so easy. Aspiration will reveal this point in many cases, but in many others nothing but a free incision will suffice. These affections, as most of us have experienced, are sometimes difficult to manage, particularly those of long standing, when the walls of the sac have become very much thickened and the contents perhaps semi-solid. Operations upon these serous sacs have always been regarded with anxiety, because of the inflammation liable to follow their incision—an inflammation which, unfortunately, does not always confine itself to the serous membrane, but, spreading to the surrounding areolar interspaces, produces some of our most formidable cases of far-spreading suppurative cellulitis.

* Read before the New York Surgical Society, April 8, 1884.

The following cases present some features in which they differ from those which I have thus sketched, and serve, it seems to me, to suggest a modification in diagnosis, and a caution in prognosis which may possibly save a serious disappointment:

CASE II.—Frank McNair, aged forty-three, a man of good habits and apparently in excellent health, came into the New York Hospital, December 5, 1879, with a swelling on the plantar surface of the great toe of one foot. It had commenced about two years before, without any known cause, and had slowly and steadily increased in size. It was from the first somewhat painful on walking, but of late had become so serious an impediment to him that he was very desirous that something should be done for his relief. There had never been any evidence of inflammatory action about it, though it was more painful at some times than at others, particularly when he had been obliged to stand or walk on it more than usual. On admission, a softish, doughy feeling swelling occupied the under surface of the great toe, extending back into the ball of the toe, so that its posterior margin was well behind the metatarso-phalangeal articulation. It had an elastic feel, and, when pressed upon, the whole swelling became hard and tense. A feeling of fluctuation was distinct enough, but left a doubt in the mind whether it was produced by a fluid or a semi-solid material within the cyst. The cyst-wall seemed to be quite thick. The diagnosis was clear as to the distension of the synovial sheath, but the nature and consistence of the contents were not so manifest. My notes do not say that aspiration was performed, but, if it was, no information was elicited by it. The case was regarded as one of the usual forms of distension of the synovial sheath from a low grade of inflammation with effusion of a fluid which had become partially solidified by the admixture with it of some form of a plastic fibrin. I was at the time experimenting with "through drainage," and on the 6th of January I employed that method in the treatment. An opening was made into the sac as far back as possible, and the contents were with some difficulty squeezed out. The substance thus evacuated was of a yellowish-white color, looking not unlike the sebaceous contents of some of the cysts of the scalp, but it was evidently not a perfect fluid, for certain portions of what was squeezed out showed some such coherence as would be found in a soft growth which had been forced from the cavity in which it had lain, and which, though in the main broken up into a diffuent pulp, showed clear indications of its having been originally a continuous tissue, though of the softest possible consistence. Not much attention was given to this peculiarity at first, as its cohesion was supposed to be explained by the idea of the fibrous masses of which the substance was partly composed adhering more or less intimately together. It was afterward recognized that this feature was of most important significance. After emptying the cavity of all that could be forced out, the walls, as far as could be seen through the opening, presented the ordinary smooth, shining, white surface of healthy synovial membrane. An opening was now made at the anterior extremity of the cavity, and a perforated drainage-tube passed from one opening to the other. The wound was dressed antiseptically, and the ends of the tube were allowed to project through the dressing, thus allowing the cavity to be easily washed out with a weak solution of carbolic acid. No inflammatory reaction occurred. The tube was removed in about a week, and the wounds soon healed. The patient thought himself cured, and could walk pretty well before he left the hospital. Six months afterward I saw him with the swelling about as bad as before, and the impairment of motion steadily increasing. From that time I have not seen him.

The report of the pathologist on the material expressed from

the cavity was as follows: "Specimen consists only of irregular fragments scraped and torn out of what seemed to be a cyst, though the cyst-wall was not demonstrated. Microscopic examination: 1st. When examined in fresh state, there was found to be much amorphous fibrin, and tumor was thought to be a benign cyst. 2d. The fragments, when hardened, show, upon section, in some cases only amorphous fibrin, but in other cases the typical structure of spindle-celled sarcoma."

CASE III.—Delia Dalton, aged twenty-five, entered the New York Hospital, January 21, 1880, with a swelling of the sole of the foot. The history was similar to that of the other cases. She said that about two years previous she began to experience pain and soreness on walking, which she attributed to the pressure of her shoe. About eighteen months before her admission she sprained the same ankle, since which a lump appeared below the inner malleolus which has slowly increased. It has given her much pain, especially on walking. The swelling had been punctured several times. The first time a little serum flowed out, but in subsequent punctures nothing was obtained. She appeared to be in good general health, and when quiet does not suffer much from her foot. During and after walking, however, she suffers so much that she is completely disabled. The swelling occupies a large part of the sole of the foot, and extends behind and above the inner malleolus. It is softish, non-elastic, but by pressure on one part of the swelling the whole can be rendered tense. A feeling of fluctuation is perceptible, giving the idea of thick, viscid, or semi-solid contents. The tissues overlying the tumor are perfectly normal. It was clearly a case of distension of the large synovial sheath which surrounded the flexors of the toes and the extensors of the foot; but the nature of the distending material could not, of course, be ascertained. In any case, opening the sac and emptying it of its contents was the first step in any method of cure. This was accordingly done January 27, 1880. An opening was made nearly as far back as the malleolus, and through it the cavity was evacuated. Nothing flowed out when the cavity was first opened, but on firm pressure a semi-fluid substance, which exactly resembled that found in McNair's case, was with some difficulty forced out, leaving a large cavity extending forward so far that a straight steel sound passed quite to the root of the toes. The difficulty of extruding this substance was so great as to give me the idea of its adhesion to the walls of the sac. To make sure of this point, and to enable me to break up the semi-solid mass so that it could be thoroughly evacuated, I enlarged the opening till it admitted my finger. I could now recognize that there was at many points a close adhesion of the contained mass with the walls of the cavity, which were lined with a bright-shining serous membrane. The finger could now trace the division of the main cavity into several smaller chambers, which represented the prolongation of the sheath formed over each separate tendon as it went to be inserted in the phalanges. All these cavities had been enormously distended by the accumulating mass within, so that I could move my finger about through quite a large space in the middle part of the sole, and could even push the tip of it into some of the enlarged anterior digital prolongations. With the finger, and with the scoop and forceps, I evacuated the cavity as completely as I could, but I was sensible that a considerable portion of the mass was not reached, and could not by any of my contrivances be perfectly removed. The operation was completed by making an opening anteriorly near the base of one of the toes and passing a through drainage-tube from one opening out at the other. The wound was dressed antiseptically, with the ends of the tube projecting, and a solution of carbolic acid (1 to 60) was injected into and through the cavity once in every three or four hours. No inflammatory reaction followed. The tube was not removed

till February 6th. The wounds healed slowly. She was discharged improved May 4th, but, as in McNair's case, all traces of the tumor had not disappeared, and she could not walk without pain. The semi-solid contents of the tumor were very carefully examined. To the naked eye it gave the appearance of a very soft, almost diffident substance, much broken up by the violence done in removing it, but sufficiently coherent in many points to demonstrate that it was a soft tissue and not a thick fluid. The microscopic examination by Dr. Peabody showed "the typical formation of a spindle-celled sarcoma, being almost identical with the scrapings from the foot of McNair." She was readmitted to the hospital September 18, 1880. The swelling was as large as ever, and quite as painful. Her general condition was good. There was no cachexia, and no enlarged glands could be discovered. There was, however, on the opposite side of the foot, another growth which had developed since she left the hospital, and which did not appear to have any connection with the tendons or their sheaths, and also another growth in the fatty tissue covering the lower surface of the os calcis. The clinical history, taken with the microscopical appearances, so clearly pointed to extension of sarcomatous disease that amputation was advised and performed on the 9th of October, low down in the leg. She made a good recovery, and nothing has been heard from her since she left the hospital.

Dr. Peabody's report of the dissection of the foot is as follows: "Beneath the cicatrix, and extending thence backward and forward over a space irregularly circular, with a diameter of an inch and a half, is a new growth. It is very soft and friable, of a reddish-gray color, and contains numerous small spots of hemorrhage. It lies beneath the skin, and spreads thence deeply downward, involving the sheaths of the tendons. On the outer side of the foot, just below the malleolus, is another mass of similar material about as large as the end of one's thumb, which bears the same relation to the superficial and deep tissues as does the growth on the opposite side of the foot. Underneath the os calcis is a mass of the same tissue three or four times the size of the last-described mass. It invades the tissue of the bone at one point to the depth of a quarter of an inch. Just behind the ankle joint is a very small collection of material apparently similar to the other; it is not larger than the tip of one's finger. These masses of new growth are all discrete, being separated by areas of tissue to all appearances healthy. The tissue of the new growth, examined microscopically, is found to be very rich in spindle cells and in oval cells of small size, joined by a very small amount of fibrous intercellular substance."

From this it is evident that the recurrence was not confined to the synovial surface, as was the original disease, but had passed through into the surrounding tissues, and, besides, had developed in new and isolated spots, where it was not known or suspected to exist at the time of operation. This, therefore, may fairly be regarded as a case not merely of recurrence *in loco*, but one of commencing generalization, which entitles the affection to be considered as of the most decidedly malignant character.

The literature of diseases of the synovial sheaths seems to be extremely meager. A great many isolated cases of the ordinary forms are scattered through the journals, and Dr. Hulke, in the "Medical Times and Gazette," gives a short account of a case in which he found, in a post-malleolar swelling, the cavity filled with small grains, as he describes them, of the shape and size of melon-seeds; but I have not yet been able to find any description of an endogenous growth within the synovial sheaths which in any way

resembles that which we have been considering. Fournier and Verneuil have published short papers on the form of synovial distension which is dependent upon syphilis, but to this form their cases and remarks are strictly confined.

I have presented these cases to the society because I think they offer a phase of sarcomatous disease which has not hitherto been described. Beside the interest which may attach to them as rare developments of sarcoma, they have, I have thought, a practical importance in the diagnosis, and especially in the prognosis, of synovial diseases. Traumatic and spontaneous inflammations of the synovial sheaths, both acute and chronic, are certainly not very uncommon affections, and to discriminate between these comparatively harmless conditions and those in which dangerous and even fatal results may possibly be realized is worthy of careful attention. That such discrimination may be made with certainty I would not venture to claim, but I think that the slow, painless progress, at least in the earlier stages, the absence of distinct fluctuation, the firmness and tension of the sac, and the negative results of puncture, may lead to a suspicion, if not to a certainty, of sarcoma, and may thus have an important bearing both on treatment and on prognosis.

Before concluding I wish to read the following letter:

"12 WEST THIRTY-SECOND STREET, April 5, 1884.

"DEAR DOCTOR: I am not sure whether this case belongs to your cases or not:

"Male, aged thirty, a laborer. Tumor removed by Dr. Wood, June, 1869. Ten years ago patient first noticed a tumor the size of a pea in the palm of the hand. It grew slowly at first, rapidly within the last three months.

"It is now situated between the palmar fascia and the sheath of the tendons. It is of pyriform shape, six and a half centimetres long.

"When laid open, the tumor is found to consist of a fibrous cyst-wall, from which grow soft masses, filling up the cavity. These masses are soft, succulent, yellow, mottled with hemorrhages. They are composed almost entirely of cells, which are of round, oval, fusiform, and stellate shapes.

"The history as to the exact position of the tumor is not satisfactory, but I believed at the time that it originated in the sheath of one of the tendons.

"Yours truly,

"FRANCIS DELAFIELD."

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Medical Education and the Regulation of the Practice of Medicine in the United States and Canada. Prepared by the Illinois State Board of Health, and published by Permission of the Board. Revised and Corrected to March 1, 1884. Chicago: W. T. Keener, 1884. Pp. x-270.

Contagious and Infectious Diseases; Measures for their Prevention and Arrest, etc. Circular No. 2. By Joseph Jones, M. D., President of the Board of Health of the State of Louisiana. Baton Rouge, 1884. Pp. viii-410.

Medical Department of Niagara University. Annual Announcement, Session of 1883-'84, and Announcement of the Spring Term, 1884.

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PHYSICAL REST FOR THE BRAIN.

OVERWORK of the brain in the way of strained or unduly prolonged intellectual exertion and the subjection of the organ to the wearing effect of protracted anxiety and responsibility are now rated at something like their real significance as factors in the train of causes that but too often, in the press of our busy lives, lead on to premature decay of mental vigor, or at least to the wretched states termed "brain-exhaustion," "nervous prostration," and the like—conditions in which the brain is equal to little more than presiding over the functions of vegetative life, and is scarcely able to play even this restricted part in such a way as to maintain the normal constitution of the tissues. This element of cerebral hygiene, we say, has come to be generally appreciated by medical men, and is gradually forcing itself on the attention of the community. But what may be termed, in contradistinction to functional rest for the brain, its physical rest has hitherto been limited generally to the withdrawal of sensory and emotional sources of irritation. A grosser sort of physical injury of the organ, even mechanical in its nature, has lately been pointed out by M. Luys.

According to the "Progrès médical," this distinguished observer read a paper at a recent meeting of the Paris *Académie de Médecine*, on what he termed the "locomobility" of the brain according to different attitudes of the body. Surrounded as it is within the cranial cavity by an empty space, says M. Luys, the cerebral mass is subject to displacements of greater or less degree, as well under the influence of changes in the bodily attitude as under that of the heart's contraction. Let a man lie down or stand up, and the brain obeys the law of gravitation; in the one case the occipital end of the organ comes into contact with the bony support, leaving an empty space in front, while in the other the void occurs at the occipital region, the whole frontal portion being occupied by the anterior lobes. The movements of the brain involved in these changes of its position are of a gliding nature, by virtue of the lubricated surface of the arachnoid, and they are performed slowly and progressively, so that it would take five or six minutes for the displaced parts to return to their former situation.

Reasoning from these anatomical data, M. Luys draws important deductions as to cerebral action, both normal and pathological. By the sudden ischemia produced by the changes of position he explains the derangements that are so common in convalescents, and the sense of dizziness or confusion that results from suddenly assuming the erect posture after lying down. It is thought not improbable, indeed, that the extreme

pains of meningitis may be due to the roughening of the affected membrane opposing an impediment to the physiological gliding of the brain; and it is suggested that the attacks of giddiness, and even of apoplexy, which take place in the subjects of heart disease when they rise from the horizontal posture may be owing in great part to these changes in the position of the organ. The same influence is invoked, too, to explain the varying moods of the insane—their special intractability while lying down at night, and their calmness in the sitting posture. All sorts of commotion, repeated shocks, the jarring of a railway train, are thus capable of acting injuriously on the cerebral mass, and all the more so in the aged, especially in those whose brains have already suffered damage. As a practical application of these views, M. Luys advises against travel continued for more than a day at a time, and insists that the due period of rest in the horizontal posture should not be neglected.

It is true that, at the succeeding meeting of the Academy, M. Colin, of Alfort, brought several objections against the conclusions drawn by M. Luys, chiefly that they were based upon experiments on the cadaver, in which the conditions were different, and that an opening was necessarily made in the dura mater, whereby, in all probability, filaments were sundered that ran from this membrane to the arachnoid and served to check the movements of the brain; adding also that the venous sinuses were empty, and therefore could not perform the cushion-like office that pertained to them during life. To these criticisms M. Luys retorted that M. Colin's experiments had been performed on the lower animals, in which the conditions of the encephalic mass were quite different from what obtained in the human subject, owing to the diverse configuration of the cerebro-spinal axis. He stated, too, that he had taken pains to guard against error in regard to the sustentative action of the vessels by injecting them with a material that would solidify and give them the caliber proper to them during life. M. Bécéard gave notice that he would speak on the subject at the next meeting, and it will be interesting to observe what further facts may be brought out bearing on the question.

THE SENSES—FIVE OR SEVEN?

THE old hint that "there are more things in heaven and earth than are dreamt of in our philosophy" is one that can never long escape the inquiring mind. In its present state, science is overlapped by speculation at many points, and a suggestion having its root in the imagination often points to a line of research that leads to demonstration. Questions bringing up these reflections are dealt with by Dr. William M. McLaury, of New York, in a pamphlet bearing the title that forms the heading of this article, the same being a paper read by him at a recent meeting of the Northwestern Medical and Surgical Society.

Dr. McLaury begins his paper by pleading that he is unaccustomed to writing, and it is true that we have not known of him as a frequent contributor to literature, but on this account we think it is all the more to his credit that he has taken pains

to write out the ingenious thoughts which form the basis of his paper. And this leads us to remark that it would be well if the members of our profession would oftener communicate their ideas at society meetings, even if, they distrust their capabilities of expression.

The paper in question is short, and does not readily admit of condensation. We shall therefore content ourselves with indicating its general purport, without attempting an analysis. Starting with the assumption that the sense of touch is the basis of all the other special senses, the latter being modifications of tactile sensibility, the author thinks we may quite as well admit that further modifications of this primordial sense may be developed under special conditions, and allow an actual existence to the occult powers which occasionally seem to be vested in particular individuals, being spoken of by the terms "second sight," "spiritual manifestations," etc. A striking instance is given of the alleged action of some such faculty, and one that will come home with special force to the profession at the present time, in the following words: "For instance, J. Marion Sims appearing to Dr. Byrd at the hour of his death, saying to him, 'James the Fourth is dead.' Dr. Byrd was so disturbed that he could sleep no more, but walked the floor till morning, when a telegram announced the fact that James the Fourth (a name given to Dr. Sims by his friends on account of his being the fourth of that name in the direct line) had died just before Dr. Byrd was awakened by him."

As the author remarks, there are many occurrences of this sort on record which ought not to be ignored, however we may be disgusted by fraudulent assertions on the part of designing persons who pretend to have similar experiences. The paper is highly suggestive and ingenious, and we commend its perusal to our readers.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 23, 1884:

DISEASES.	Week ending April 15.		Week ending April 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	19	1	10	1
Typhoid Fever	6	1	10	4
Scarlet Fever	78	17	100	13
Cerebro-spinal meningitis. . .	5	5	0	0
Measles	107	16	78	2
Diphtheria	39	22	49	18

CHOLERA IN THE EAST.—The French Government is reported to be preparing a system of quarantine and inspection of vessels arriving from infected ports, in view, it is said, of the present prevalence of the disease in India. A London dispatch dated April 23d reports the arrival of an English ship at Alexandria, Egypt, from India, with a case of cholera on board.

YELLOW FEVER AND PREVENTIVE INOCULATION IN BRAZIL.—The "Gazette hebdomadaire de médecine et de chirurgie" quotes a Rio de Janeiro newspaper to the effect that Dr. Domingos Freire's supposed discovery of the contagium vivum of yellow fever, and of the practicability of preventing the disease by inoculation, are attested thus far by 211 successful inoculations.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The Pennsylvania Railroad Company has fixed the rate of fare for delegates at \$9.80 from New York to Washington and return, \$6.10 from Philadelphia to Washington and return, and \$1.65 from Baltimore to Washington and return. Limited round-trip tickets can be obtained, for these prices, at any of the offices of the road, on presentation of credentials.

Trains leave the Pennsylvania Railroad depot in Jersey City, with ferry-boat connections from the foot of Cortlandt and Desbrosses Streets, New York, and with annex-boats from Brooklyn, and from the Sound line of steamboats, on their arrival, as follows:

Leave New York	6.20 A. M.,	arrive in Washington	2.00 P. M.
" " "	8.30 A. M.,	" " "	4.45 P. M.
" " "	10.00 A. M.,	" " "	4 05 P. M.
" " "	1.00 P. M.,	" " "	8.20 P. M.
" " "	3.40 P. M.,	" " "	10.20 P. M.
" " "	7.00 P. M.,	" " "	2.55 A. M.
" " "	9.00 P. M.,	" " "	6.05 A. M.
" " "	12.00 P. M.,	" " "	8.10 A. M.

The 10 A. M. train is the Washington Limited Express, on which the fare is \$2.35 additional. The trains leaving at 1 and 7 P. M. run over the lines of the Baltimore and Ohio road after leaving Baltimore.

PROFESSOR WILLARD PARKER.—We regret to have to add to the unfavorable accounts that we have before given our readers concerning Dr. Parker's health, that on Sunday, the 13th inst., he was seized with aphasia, and since that time has constantly been losing ground, so that at the time of our going to press the fear is entertained that he can not long survive.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.—Dr. Ambrose L. Ranney, of the faculty of the New York Post-Graduate Medical School and Hospital, has gone to Burlington, to give a course of lectures on nervous diseases.

REQUESTS TO HOSPITALS.—Among the bequests in the will of the late Mr. Thomas G. Appleton, of Boston, is one of \$5,000 to the Massachusetts General Hospital, with a residuary provision for a further sum. It is stated that, by the will of the late Mr. H. B. Hurlbut, the Cleveland City Hospital is to receive \$200,000.

DUTIES ON MEDICAL SUPPLIES.—According to recent decisions by the Treasury Department, the duty on effervescent citrate of magnesium is fixed at 25 per cent., and that on carbon battery plates at 20 per cent., ad valorem.

A BILL RESTRICTING THE SALE OF DRUGS.—The State Assembly has passed a bill prohibiting the sale of drugs by any other persons than pharmacists and physicians.

THE TITLES OF MEDICAL OFFICERS OF THE ARMY.—The bill defining the titles and duties of army medical officers of the higher ranks has passed the Senate. Surgeons with the rank of Colonel are to be styled Assistant Surgeons-General, and those with the rank of Lieutenant-Colonel, Deputy Surgeons-General.

ST. FRANCIS'S HOSPITAL, it is hoped, will derive substantial help from a concert to be given in its behalf at Steinway Hall to-morrow evening.

PHYSICAL EDUCATION AT AMHERST COLLEGE.—Dr. H. H. Seelye, who recently completed his term of service on the house staff of Bellevue Hospital, has been appointed instructor in physical education at Amherst College, succeeding Dr. Hitchcock, who goes to Cornell University.

ADULTERATED TEA.—During the last thirty days 2,500 packages of adulterated tea have been seized by the United States Tea Inspector; and, in the year during which the law requiring

a strict inspection of tea has been in force, 650,000 pounds have been rejected.

THE RIBERI PRIZE.—According to the "Medical Times," of London, the seventh award, of 20,000 lire (about \$4,000), will be made for the best essay on "embryological researches, with special regard to the anatomy, physiology, and pathology of man." The essays, written or printed in the Italian, French, or Latin language, must be delivered to the Turin Academy of Medicine before the 31st of December, 1886. The MSS. will remain the property of the Academy.

MACKENZIE ON "DISEASES OF THE THROAT AND NOSE."—We regret to learn, from our London exchanges, that at a recent fire in London the entire edition of the second volume of this important work was destroyed. It will be reproduced, however, from proof-sheets in the author's possession, but its issue will necessarily be delayed for many months.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 13, 1884, to April 19, 1884:*

NEWTON, R. C., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Sill, Indian Territory, and ordered to Fort Elliott, Tex., for duty. Par. 1, S. O. 77, Headquarters Department of the Missouri, April 14, 1884.

PILCHER, JAMES E., First Lieutenant and Assistant Surgeon. Assigned to duty at Camp Poplar River, Montana. Par. 2, S. O. 37, Headquarters Department of Dakota, April 7, 1884.

CHAPIN, ALONZO R., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Douglas, Utah, and ordered to Fort Laramie, Wyoming, for duty. Par. 2, S. O. 33, Headquarters Department of the Platte, April 15, 1884.

WALES, PHILIP G., First Lieutenant and Assistant Surgeon. Ordered to report to the commanding general, Department of the Columbia, for assignment to duty. Par. 11, S. O. 84 A. G. O., April 11, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending April 19, 1884:*

WALES, P. S., Medical Director. To continue on duty as member of Ration Board.

WELLS, H. M., Surgeon. Ordered to special duty at Hot Springs, Ark.

PECK, GEORGE, Medical Director. Ordered as President of Board of Medical Officers detailed for special duty at Coaster's Island, near Newport, R. I.

GORGAS, A. C., Medical Director; **WISE, I. C.**, Surgeon. Detailed as members of Board of Medical Officers, for special duty at Coaster's Island, near Newport, R. I.

NELSON, H. C., Medical Inspector. Detached from Navy Yard, Washington, and placed on waiting orders.

McMURTRIE, D., Surgeon. Ordered to duty at Navy Yard, Washington.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, April 28th:* Medical Society of the County of New York.

Wednesday, April 30th: American Surgical Association (Washington—first day); Auburn, N. Y., City Medical Association; Medical Society of the County of Gloucester, N. J.

Thursday, May 1st: American Surgical Association (second day); Medical Societies of the Counties of Orleans, N. Y., and Ocean, N. J.; Society of Physicians of the Village of Canandaigua, N. Y.

Friday, May 2d: American Surgical Association (third day); Practitioners' Society.

Saturday, May 3d: American Surgical Association (fourth day).

Letters to the Editor.

THE AMERICAN MEDICAL ASSOCIATION.

NEW YORK, April 9, 1884.

To the Editor of the New York Medical Journal:

SIR: A most remarkable instance of manners in connection with the code of ethics has lately come to my notice, so consonant with the rules of true politeness and civility that I am constrained to lay the matter before the readers of your journal as an example to the junior members of the profession of "old-code" manners.

A well-known physician of this city was invited a few months since to discuss, at the coming meeting of the American Medical Association, the paper of an eminent physician of a neighboring city, and also to prepare an essay for the consideration of that body. This invitation was accepted, and everything was seemingly arranged, when the New York physician was notified by the chairman of the section before which the paper was to be discussed that, as he (the New Yorker) was a believer in the new code, the Committee on Arrangements of the American Medical Association could not permit him to read his paper or discuss the paper of any member.

Truly, this is a curious instance of the amenities of the "old-code" polite society; to invite a man to discuss a scientific subject, and then exclude him on the ground of a difference of views on medical etiquette, for that, after all, is what the code is—as though a man's scientific opinions could command respect only when his ideas were correct as to whom he should consult with, and how he should conduct himself with his professional brethren and the public. It almost tempts a scoffer to paraphrase Dr. Johnson's famous criticism on Lord Chesterfield's "Letters to his Son" by saying that the "old code," judging by the behavior of some of its advocates, inculcates the morals of a hypocrite and the manners of a cad.

I am, dear sir,

Your obedient servant,

F. R. STURGIS.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 8, 1884.

ROBERT F. WEIR, M. D., President, in the chair.

LIGATION OF THE SAC IN STRANGULATED HERNIA.—**DR. J. C. HUTCHISON** reported two cases of strangulated hernia in which he had operated recently. Both the patients were females. One hernia was femoral and the other a direct inguinal. After dividing the stricture and returning the contents of the sac, he surrounded the sac in one case with a catgut ligature and cut it off below. In the second case he surrounded the sac with a carbonized silk ligature and then cut it off. The first patient had recovered entirely, and the second, still under observation, was doing well, her temperature at no time having been above 99° F. He had made no attempt to close the ring.

SARCOMA OF SYNOVIAL SHEATHS.—**DR. T. M. MARKOE** read a paper with this title. [See p. 467.] After reading the paper, he referred to a case in which Dr. W. T. Bull had opened the knee joint for the removal of a loose cartilage. The body was found imbedded in the edge of one of the synovial fringes, which floated into the wound as the turbid, bloody serum contained in the joint flowed out. The body was spherical or ovoidal in shape, about as large as two peas, and of a cartilaginous hardness. On

section, after hardening, the microscope showed the tumor to be composed of some small-round cells, many spindle cells, and a large number of giant cells, marking it as a *sarcoma giganteo-cellulare*, as Virchow termed these tumors, or, as they were more familiarly known, as the myeloid sarcoma of Paget. The case seemed to Dr. Markoe to have an interesting analogy to those which he had related.

Microscopical sections, prepared by Dr. Peabody, illustrating each of the tumors described, were then exhibited.

The President said that he had had the good fortune to see one of the cases which Dr. Markoe had related, and shortly afterward he had had a case which he saw at his clinic at the College of Physicians and Surgeons. A young Italian girl presented herself with an obstinate broad ganglion on the dorsum of the hand, near the wrist. The patient subsequently entered the New York Hospital and was operated upon by Dr. Peters. The tumor was found to encircle the tendons, and she had been seen lately by Dr. Abbe, who reported a recurrence of the growth. Microscopically, the neoplasm was sarcomatous.

FRACTURE OF THE NECK OF THE FEMUR.—Dr. A. C. Post said he had recently seen a case which illustrated the difficulty occasionally encountered in the diagnosis of fracture of the neck of the femur. Two weeks before, a lady about seventy seven years of age, a well-preserved and healthy person, fell one or two steps going down stairs, and immediately afterward was unable to walk, complaining of pain in the region of the hip, but did not send for him until the next evening. When he saw her she was lying on her back; the affected limb appeared very slightly everted, but, on careful measurement, he could not detect any difference in the length of the two limbs. He gave a guarded diagnosis, saying that there was possibly a fracture of the neck of the femur without separation of the fragments, and advised the patient to remain quiet. He visited her several times afterward, and found her in about the same condition, except that she gradually grew more comfortable, was able to move about in the bed without much discomfort, and, after the lapse of about ten days, everything going on favorably, he nearly abandoned the idea that fracture had occurred. He therefore allowed the patient a little more liberty, such as sitting in a chair, and allowed her to move about the room a little with the aid of assistants. He had seen her in the morning of the day of the meeting, and had found her sitting on a chair and not complaining of pain. With his assistance and the aid of an umbrella, used as a cane, she was able to walk very slowly across the room. This evening he received an urgent call to see her, with the statement that she had suddenly become very much worse and was suffering severe pain. When he reached her he found that there was more marked eversion of the foot, and that there was shortening of the limb to the extent of about seven eighths of an inch. The account given was that, while she was sitting up, some friend called, and suggested that she raise her foot and place it in another chair, which she did, and was not conscious of having injured the limb, but, when she attempted to return to the bed, she immediately began to suffer from severe pain, and Dr. Post found the condition described, which had not existed at his morning visit. He then concluded that the case was originally one of fracture of the neck of the femur without separation of the fragments, that the fragments were held together by the thick periosteum of the neck, and that probably the movement made when she raised her foot and placed it in another chair separated the fragments and allowed them to pass by each other.

He also recalled a case which occurred many years ago in the old New York Hospital. The patient was brought in after having received an injury, and he was unable to make out any shortening of the limb, although there was some eversion, with

a good deal of lameness. He gave the patient the benefit of the doubt concerning fracture, and did not make any extension or special manipulation for the purpose of diagnosis. It was near the end of his term of service, and he was followed by one of his colleagues, who, when he came on duty, was anxious to have a clear diagnosis, and therefore proceeded to make some extension and further manipulation of the limb, and subsequently there was no doubt whatever concerning the nature of the injury. Dr. Post had been in the habit of treating such cases as cases of fracture until the diagnosis became clear or until the patient got well. He thought the case reported suggested the great importance of caution in that respect, and of being contented with uncertain diagnosis rather than subject the patient to the danger of separation of the fragments, which could not afterward be brought together.

INTESTINAL OBSTRUCTION.—Dr. Post related a case of intestinal obstruction to which he had been called on the 12th of March. The patient was a previously healthy man, thirty years of age, and, when Dr. Post first saw him, the abdomen was very much distended, with a tympanitic percussion note everywhere except over the ascending colon, where there was a moderate degree of dullness without marked hardness upon palpation. The patient had had no movement of the bowels for four days. There was a moderate amount of fever, with considerable tenderness, and the pain was quite acute. He directed an enema prepared by infusing two ounces each of senna and Glauber's salt with half an ounce of cardamom seeds in a quart of boiling water, and ordered that one half of the enema be administered, to be followed by an opiate. On the following morning he found that the patient had had an imperfect evacuation following the enema, and he directed that the other half of the infusion be given, which brought away some solid matter with the liquid. Partial relief was afforded, but there was evidently a large accumulation of gas in the intestine, and he therefore directed that half an ounce of oil of turpentine and one drop of croton oil, added to a pint of flaxseed tea, be used as an injection on the following day. This gave complete relief, producing several copious evacuations, and the swelling of the abdomen subsided. The patient improved so steadily that on the 18th of March he discontinued his visits. Six days afterward the patient's wife called, saying that her husband was suffering again, and that a hard swelling had appeared the day after Dr. Post last saw him, which had continued, and that his bowels had not been freely moved. Dr. Post found that there evidently was a phlegmon forming in the region of the cæcum. A swelling existed there larger than his fist, and there was dullness on percussion. Although there was no distinct fluctuation, it was evident that the tumor was tending toward the formation of pus. He concluded to perform the exploratory operation of Dr. Willard Parker, and on the 25th of March he made an incision, separating layer after layer until he reached the immediate vicinity of the hardened mass, and, not detecting fluctuation, he made an antiseptic application (bichloride solution, eight grains to the pint) over the wound. From that time the patient began to experience relief, in the course of two or three days there was a moderate discharge of pus from the wound, the hardness subsided, and the patient was now in very good condition and in a fair way to recovery. The discharge had been carefully inspected, but no foreign body had been found. It was on the sixth day after hardness had been observed that he had made the incision, and he thought he had somewhat anticipated the actual formation of matter, which readily found its way into the artificial opening. He regarded it as safer to proceed in this manner than to take the chances of an abscess opening into the peritoneal cavity.

The President remarked that Dr. Post's case of fracture of

the femur was very interesting in several particulars, especially with reference to the difficulty of diagnosis, which in more than one instance he had himself experienced. He thought that where the patient was thin, and Bryant's line could be made out distinctly, and there was also relaxation of the fascia lata, sometimes a diagnosis could be made clear in this manner. But he had to confess that practically the rule laid down by Dr. Post must be followed, and that the case should be regarded as one of fracture until such a period had elapsed as would show unquestionably that only a contusion of the muscles had existed. Attempts to elicit crepitus should be made with great caution.

Dr. L. A. STIMSON thought the need of caution might be formulated even more strongly, and it might be said that when an elderly patient had fallen and struck upon the hip, with consequent inability to use the limb, unless absence of fracture could be positively made out, a diagnosis of fracture should be made, and the absence of fracture could only be asserted when all its minor indications were absent. As Professor Bigelow had pointed out, when no eversion could be recognized there might be diminished inversion. Another sign recently pointed out by a French surgeon, Hennequin, which Dr. Stimson had never failed to find in any case of fracture at the hip joint, since he had learned to look for it, was a lack of depressibility of Scarpa's space; that is, the fingers could be pressed into that space less deeply than normal, and the manipulation was always accompanied by pain in cases of fracture. A case had come under his observation a few days before in which there was neither eversion nor shortening, but there was inability to use the limb, and there was a fullness of Scarpa's space, and he was able, by gently flexing the limb to a right angle with the pelvis and pressing on the trochanter, to get a single click of crepitus, which made the diagnosis complete. He had been unable to get the crepitating click with the limb extended. Dr. Stimson asked the President if he had noticed the lack of depressibility in Scarpa's space.

The PRESIDENT replied that he had tried to make it out in only two cases, and it was present in each instance, but he did not rely upon it as a pathognomonic symptom. He also supplemented the case by proposing an inquiry with regard to the treatment of impaction with extreme eversion. He had seen two cases in which the eversion was so marked, in subjects under fifty years of age, that he was strongly tempted to break up the impaction, so as to get a better position for the limb, but he did not dare to do so, and the result apparently justified him in his decision, because the patients subsequently walked fairly well, much better than he had expected they ever would.

Dr. HUTCHINSON said that in his own case, an impacted fracture of the femoral neck, there was at first great doubt whether or not fracture had occurred. He was carefully measured by three competent surgeons, one of very large experience, who made out three fourths of an inch shortening, and one of the others found some shortening. The third examined in the presence of the other surgeons, and also alone several times, and was unable to make out any shortening. Dr. Hutchinson had the conviction that he had an impacted fracture, but he was not satisfied that a fracture had occurred until six or seven hours after the receipt of his injury, when symptoms developed which convinced him—namely, spasmodic contraction of the muscles about the hip when he fell asleep, which continued to occur from time to time for a week. He was disposed to regard the presence of muscular spasm about the hip joint, after severe injury of that part, as pathognomonic of fracture, but fracture here often existed when this symptom was absent. On the following day two of the three gentlemen had no doubt concerning the existence of a fracture. The fragments did not separate, although he was moved from Lake George to his home soon after the injury.

He agreed with the opinion expressed by members, that, when the diagnosis was doubtful in injuries about the hip, the case should be treated as one of fracture.

The PRESIDENT remarked, with reference to Dr. Post's case of perityphlitis, that he had recently seen a case occurring in a young person, twenty-two or twenty-three years of age, in which the specially interesting features were the presence of normal temperature and resonance on percussion over the tumor. At first there was some fever, with constipation of the bowels and severe abdominal pain; but these symptoms soon disappeared, and, after the temperature fell to normal, the tumor first showed itself. When he saw the case yesterday, in consultation, the pulse was 84, the temperature was normal, and the tumor was in the right iliac fossa, well up toward the median line, and was resonant on percussion. He had once seen a similar case under the care of the late Dr. Gurdon Buck, and the explanation which Dr. Buck gave with reference to resonance on percussion was the presence of gas in the cavity of the abscess. In the present case the diagnosis was made sure by thrusting in a hypodermic syringe, which withdrew pus, and afterward an incision was made in the line of puncture, and gas and pus were abundantly evacuated. No foreign body was found in the cavity. The discharge was exceedingly offensive, although the pus had a good color.

Dr. C. K. BRIDGON had seen two or three cases of perityphlitic abscess in which there was resonance over the tumor, and the gas which escaped was also very offensive in character. He had also seen a case of iliac abscess, as described by Dr. Buck, which was filled with gas, and for the relief of which he performed the operation devised by Dr. Buck—namely, to operate below Poupart's ligament, extending the incision down to the tendons of the psoas and iliacus muscles, opening the fascia over these tendons, and passing the finger up beneath the fascia into the iliac fossa. In this instance he passed his index-finger its entire length without getting any response. He then introduced a female catheter nearly its entire length, when there came a full puff of offensive gas, and he had the impression that he had punctured the intestine, but it was not so, for the puff was quickly followed by a large discharge of pus. The patient recovered, but eventually died of tuberculosis.

Dr. Post referred to a case of intestinal obstruction, due to impaction of feces in the rectum, occurring in a woman eighty-five years of age. She had gone repeatedly to the water-closet, and had passed small quantities of mucus. On digital examination, the rectum was found to be filled with a solid mass of fecal matter. Portions of this were removed with the handle of a spoon, and this was followed by a warm-water enema that gave complete relief.

Dr. Post also referred to a case of constipation in a lady who had given birth to a child twelve days before. She had had frequent liquid evacuations, and her attending physician had regarded the case as one of diarrhoea, for which he had prescribed opiates. When Dr. Post was called he made a digital examination, and found scybala in the rectum. The patient was relieved by an active cathartic.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of April 21, 1884.

WILLIAM DETMOLD, M. D., President, in the chair.

SCARLATINA OF THE FETUS IN UTERO AND OF THE MOTHER AT THE NINTH MONTH OF PREGNANCY.—Dr. CHARLES A. LEALE read a paper on this subject, in which he stated that scarlatina of the fetus *in utero* so seldom occurred that many physicians of extensive experience, and several writers on the diseases of children,

doubted the possibility of this disease occurring in the new-born, but, having had the sad experience of witnessing it in its malignant form in a young family, he felt it a duty to warn the profession of the danger of communicating the poison to the pregnant woman. This warning seemed specially called for, as a quotation was making the rounds of the medical journals setting forth the immunity of the puerperal woman from scarlet fever. In the light of his own experience and that of other observers, Dr. Leale said we might just as well maintain that a man who had received twenty-six bullet wounds without being killed was in a safe position. A brief summary was given of the cases of probable scarlatina in the new-born, scattered throughout medical literature, and quotations were made from different authorities on the diseases of children, expressing their doubt as to the correctness of the diagnosis of reported cases. But the accumulated testimony of a number of European and American observers strongly demonstrated the possible occurrence of scarlatina in the child at birth. In making this statement he referred to that form of scarlet fever which was contagious, and recognized as being due to a specific poison, and not to certain forms of septicæmia attended and followed by some of the symptoms and sequelæ of scarlet fever. He had attempted to gain wider information bearing upon the subject by a reference to the statistics of the Board of Health, but the figures only gave the sex and the age at which the patient was affected.

During the past twenty years Dr. Leale had seen only one case in which scarlatina had developed in the fœtus *in utero*, but he had seen three cases of undoubted puerperal scarlet fever, two in his own practice, one patient having died and the other having recovered. There were all the undoubted symptoms of the disease in a severe form—the fever, eruption, desquamation of the skin and nails, and in one case loss of hair and tedious convalescence. The third case was seen with the late Dr. Peaslee, who considered it an unmistakable case of scarlatina. The patient died soon after delivery, and the child lived but a few minutes, on account of the intensity of the throat symptoms rendering it impossible for it to breathe.

The case of scarlatina in the fœtus which had come under his observation was in a young and exceptionally healthy family. They had lived in the country, and had recently come to the city and lived in a fashionable French flat. The mother was proud to say she had never been sick, had not even had the usual diseases of childhood. She was twenty-four years of age, the father twenty-five; they had a boy of four years, and a nurse fifty years of age. A visiting relative came directly from a house where scarlet fever had prevailed in a distant city and unpacked her trunk, containing the woolen dresses, in the sleeping-room of the lady. On January 9th Dr. Leale was sent for, and found the son sick with scarlet fever. Examining the mother, who had advanced about to term, he found she also had the eruption upon the chest and abdomen, the mucous membrane of the fauces was intensely reddened, and within a few hours the entire body was covered with the eruption of a malignant form of the disease. The fœtus, from its violent motions, appeared to be in convulsions. The mother became delirious. It was considered necessary to deliver quickly in order to save either the mother or the child. The cervix was accordingly dilated, and within four hours the forceps was applied and the child extracted, without injuring mother or child. It was a large boy. The bleeding which took place with the expulsion of the placenta relieved the cerebral congestion and led to consciousness in the mother. For some hours her condition was improved, but after twenty-four hours from delivery the temperature again rose to 106.5° F., the skin became of a dark-purple color, and the symptoms in general grew worse until fifty-

six hours after delivery, when she expired. Almost immediately after death the body was beyond recognition by any of her friends. The father, alone of the entire family, escaped having the disease, he being the only one known to have had it before. All the other members of the family—viz., the son, the newly born child, and aged nurse—passed through the different stages of the disease. These three recovered.

The discussion was participated in by the PRESIDENT, Dr. J. W. S. GOULEY, Dr. W. T. Lusk, Dr. S. T. HUBBARD, and others. Dr. Lusk said there were some points referred to in the paper which perhaps might be brought out in a little stronger relief. In the first place, it was a matter of great interest that a woman exposed to scarlatina during pregnancy rarely, if ever, had the eruption appear until labor or subsequent to labor; that the period of incubation was very long, or that the poison remained undeveloped until just before or after the birth of the child. It was also interesting that the disease in the new-born was not clothed with many of its pronounced symptoms. In the woman about to be confined there might be none of the prodromes of scarlet fever, the fever and the eruption making their appearance perhaps at the same time, while in a large proportion of cases there were no throat symptoms, and, with regard to the renal symptoms, the patient might die before they had time to develop. With regard to the resemblance between a rash of septicæmia and that of scarlatina in these patients, he had decided doubts. He had seen a great many cases of septicæmia in puerperal women, but never yet the so-called scarlatinal rash unless it were really due to the poison of scarlet fever. Patients could die of scarlet fever in childhood, the disease running its entire course, to a fatal termination, without there being any inflammation of the peritoneum or any pelvic cellulitis. Sometimes puerperal peritonitis was associated with puerperal scarlatina, but in a large proportion of cases of the latter disease peritonitis did not develop. Scarlet fever had been regarded as peculiarly fatal in puerperal women, but he thought it probable that, as in children, so also in women, the intensity varied more or less in different cases and according to the form of epidemic prevailing. He had known of many cases where the disease in the puerperal woman pursued a mild course. He had supposed it would be very severe, but such had not always been the case. He had endeavored to learn whether any relation existed between the frequency of puerperal fever and that of death from scarlet fever in this city, but he had not been able to find any such relation on examining the Board of Health's statistics. About the same time Matthews Duncan made similar investigations in London with a similar result. But he thought we could not be too careful to avoid conveying poison to the puerperal woman. He was doubtful whether in the past, when he was skeptical regarding the power of the physician to convey the scarlatinal poison to the puerperal woman, he had not in one or two cases conveyed the poison in his clothing, as those patients were afterward severely ill, although no rash or soreness of the throat was present. There was no reason why such an accident might not occur, and we knew that in many epidemics scarlatina in the adult gave no symptoms which would lead us to diagnose it, but the sequelæ left no doubt regarding the nature of the previous illness.

Dr. HUBBARD said that about twenty-five years ago he had attended a lady, twenty-five years of age, in her first confinement. She had previously been perfectly well, and went through her labor in a normal manner. Three days after delivery she sickened with scarlet fever, and died on the third day following. The child sickened with the same disease about the fifth day after birth, and it also died. He was quite sure both cases were cases of scarlet fever. He was unable to trace a starting-point.

Dr. C. S. WOOD gave the history of a woman, whom he had seen in consultation on Long Island, who developed scarlatina immediately after child-birth. She rapidly grew worse, and died a few hours after labor.

Dr. LEALE, in closing the discussion, stated that, in the light of such cumulative evidence, it was our duty to acknowledge that exanthematous diseases were exceedingly dangerous to the parturient woman, and that these diseases could be communicated to the fetus *in utero* and the child be born in the midst of the eruptive period. The extreme danger to the parturient woman in contracting scarlet fever could not be too plainly stated, as nearly all those affected died. The fortunate infrequency of scarlet fever during childbed could be accounted for in two ways: The statistics of New York demonstrated that only a very small proportion of the deaths from scarlet fever occurred during the child-bearing period of women; and, again, pregnant women appeared otherwise more exempt. The statistics quoted from the report of Professor Trousseau in France clearly proved the terrible effects in country places of a severe epidemic of scarlet fever in puerperal women. The infant whose history had been reported was only saved with great difficulty, the throat symptoms at birth being so severe that the child could not breathe. Ordinary efforts to produce artificial breathing having failed, Dr. Leale, after washing out the throat, placed a porous towel over its mouth and nose, then, by completely encircling them with his own mouth, forced air into the lungs, and, by pressure on the lower ribs, forced it out again. By this means, continued for fifteen minutes, the throat was sufficiently cleared from the accumulated mucus, and the child breathed independently, and eventually recovered.

In the case of Dr. Penslee's, when both mother and child died, the infection was supposed to have originated from a family residing near by.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 17, 1884.

HORACE T. HANKS, M. D., Vice-President, in the chair.

DUPUYTREN'S FINGER-CONTRACTION.—Dr. ROBERT ABBE read a paper with this title. [See pp. 436 and 461.]

Dr. ROBERT F. WEIR said he had been impressed more than once with the nervous symptoms attending Dupuytren's contraction of the fingers, and had become pretty well convinced of its nervous origin. He believed it might be started by traumatism. He also agreed with the author regarding the value of multiple incisions, and his last suggestion, not to stretch the fingers immediately to full normal extension, he believed to be an important one.

Dr. ALFRED C. POST said he had been occupied with this subject a number of years, and he thought he was the first American surgeon to call attention to it. Of late years he had not met with many cases. The paper of the evening gave an admirable summary of the subject, and it would seem very little could be added to it. It had from the first been a matter of surprise to him that Dupuytren's contraction of the palmar fascia should have ever been mistaken for contraction of the tendons. The cases which he had seen presented nothing which resembled the contraction of tendons. He had noticed that flexion of the wrist and elbow made no difference in the appearance of the bands of contraction within the palm, whereas, if the flexor tendons had been contracted, the approximation of the origin and insertion of the muscles would have influenced the contraction. In operating, he made open sections of the contracted bands. It was not a matter of great importance whether the sections were made openly or subcutaneously, for there was entire safety with antiseptic methods, and the wounds

always healed kindly. He had had no difficulty in extending the contracted fingers, but he had met with the difficulty of which Dr. Abbe had spoken in restoring the power of flexion. For a considerable time the patients had experienced more suffering in developing the power of flexion than they had from the disease. Ultimately, however, the power of flexion had been restored. All the cases which he had seen he believed to have been of traumatic origin. They occurred for the most part in persons whose palmar integument was thin and delicate originally, and who during some unusual exercise, such as rowing, made undue pressure upon the tender parts and excited the disease. He did not know that any of the patients whom he had seen had been afflicted with gout or rheumatism. The flexion usually involved the metacarpo-phalangeal articulation; the distal phalanx was rarely involved; the second one sometimes. He had noticed in one instance that the sheath of the flexor tendon was involved, and division of the palmar fascia did not relieve flexion; it was necessary in addition to divide the sheath of the tendon. There was more inflammation following division of the sheath of the tendon than he had known to occur after division of the palmar fascia.

Dr. FRANK H. HAMILTON said he had studied this subject at an early date, and when Dupuytren gave us his observations he had tried to follow his advice, but he could not say with great satisfaction. As for the theory which Dr. Abbe had propounded, it had occupied his mind for a great many years; viz., that the malady was primarily of neurotic origin, that trophic changes occurred which were due to lesions of the nervous system, and that the atrophy of the palmar structure resulted in a permanent contracture of the fascia. The same thing took place in ligaments which for a period of time remained in a state of disuse. This explanation also made clear the reason why power returned so slowly to the flexor tendons after the hand had been straightened. There could be but little question that the disease was sometimes of traumatic origin, but, as it was usually confined to the ring and little fingers, he thought it must be ascribed in some cases to the almost permanently flexed position of these fingers in the occupation of the individual. The other fingers were more in use, their position was frequently changed, and hence no opportunity was given for atrophy from disuse.

Dr. LEWIS A. SAYRE could heartily indorse the theory of the neurotic origin of the affection. In all the cases which he had seen there had been pain even before the occurrence of contraction, and he believed that in all there had been a history of traumatism. The pain referred to might have lasted for months, consisting, perhaps, in a tingling sensation or other altered state of the sensory-nerve filaments for a long time before positive pain and contraction developed. Since he had adopted Mr. Adams's plan of treatment, cutting the contracted fascia at various points, he had obtained better results than formerly. The suggestion made by Dr. Hamilton with regard to atrophy seemed to him to be a very important one, and he had observed some of the best results take place from encouraging nutrition of the parts by massage, without division of the contracted bands. It was important after an operation to instruct the patient to manipulate the hand, and thus increase the nutrition of the atrophied tissues.

Dr. V. P. GIBNEY could bear abundant testimony to the painful and distressing neuroses from which many of Dr. Abbe's patients had suffered. He had seen a few cases in which he had made similar observations, and he regarded the paper as an important one in showing the connection between Dupuytren's contraction of the hand and an affection of the nervous system. He had observed that, in certain forms of club-foot, division of contracted bands in the fascia, after Mr. Adams's method, caused

the distortion to yield more readily, with less distress to the patient, and with better final results. He had also been struck by the fact that a good many cases of joint trouble which were called cases of rheumatism had their commencement in traumatism, and it seemed to him the basis of the permanent trouble lay in the nervous system.

Dr. AMBROSE L. RANNEY said that some years ago he made some careful dissections of the hand, to test the truth of the statement that none of the fasciuli of the palmar fascia went to the thumb. He found a few distinct cords running to the thumb in every instance. With regard to the proportion of cases of Dupuytren's contraction occurring in women, the author had given it, according to Keen, as one in twelve, but he (Dr. Ranney) thought that figures since given by the same author brought the proportion to one in five. With regard to the disease having its origin in gout and rheumatism, the theory had always seemed to him doubtful, and he remembered that Dupuytren reported a case in which the disease was congenital. He had never known gout to be congenital. He did not think the contraction need always be traced to a traumatism, for marked nervous irritation could be produced by attitude. For instance, no one could now question the neurotic origin of writer's cramp, which was produced simply by attitude. It was possible that the reason for the occurrence of the disease in the little and ring fingers more frequently than in the others might be explained in more ways than that mentioned by Dr. Hamilton. The ulnar nerve, for instance, was more frequently injured than the median, especially at the elbow, and men were more accustomed to rest their weight upon the elbow than women, which might account in part for the greater frequency of the affection in the male sex. He was not prepared to accept Dr. Abbe's statement that a sensory impression could be sufficiently localized, and be of sufficient duration, to cause a hyperplastic induration leading to such contraction. He asked if it would not be more reasonable, since the contraction usually took place slowly, to suppose that there had been an impression transmitted to the nerve centers, which gave rise to the peripheral manifestations, than to suppose that those manifestations were due to a localized compression of terminal nerve filaments. As to the occurrence of the disease in both hands, we knew there was a sympathy between homologous parts by which, if, for instance, we pinched the left ear of a rabbit, the right ear would immediately show a diminished circulation; if we plunged the right hand into cold water, the temperature of the left hand began to go down at once. Such a relation existed between corresponding parts of the lateral segments of the cord that, when members to which the filaments of one were distributed became affected, the corresponding member sympathized by reflex irritation.

Dr. R. W. AMIDON had recently seen a case of Dupuytren's contraction in which both hands became affected, but not simultaneously. The case was of interest to him because of certain other neurotic symptoms. The patient had had two attacks of temporary, but sudden and complete, loss of power in the legs. There was now only an exaggeration of the reflexes. There had also been loss of sexual appetite and power for two years past, and an atrophic condition of the left half of the tongue.

Dr. Post remarked that there was a reason why traumatism should occur upon the ulnar oftener than upon the radial side of the palm, the thenar eminence directing the obstacle to the former site.

Dr. ABBE closed the discussion, and showed some cases. He thought Dr. Post's remark concerning the reason why injury occurred upon the inner oftener than upon the outer side of the hand covered the probable explanation of the greater frequency of the deformity there. As to massage, it was to be preferred

to stretching, but some of his patients had been so treated for years without the least benefit. This had frequently been the experience of others also. He believed Dr. Ranney's explanation, that nerve bruising rather than nerve compression took place in the beginning, might be true.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 9, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

MYXO-FIBROMA OF THE VULVA.—Dr. H. J. GARRIGUES presented a pedunculated tumor removed from the vulva, and remarked that such tumors must be very rare, as they were not mentioned in the works of Emmet, Thomas, or Barnes. In the "Handbuch der Frauenkrankheiten," edited by Billroth, there was a figure illustrating such a case, and it was there called myo-fibroma. The exact diagnosis, however, should be myxofibroma. His specimen had been removed from a patient who was pale, dyspeptic, and suffering from an eczema of the scalp. The growth had been noticed nine years ago, but nothing had been done for it, and what induced her at last to seek relief was that the tumor began to slough and emitted an offensive odor. It was attached to the left labium majus by a pedicle of the size of the finger and of considerable length. The color was the same as that of the surrounding parts; it measured 8 cm. in length, 7 cm. in width, and 4 cm. in thickness, and had somewhat the shape of a pear. It was covered with large scales of epidermis; the surface was rather even. It was not the seat of pain, nor was it sensitive to the touch. The feel was elastic. In the pedicle rather a large artery could be felt. He applied the clamp, made a flap as in amputating the finger, cut the tumor off at the level of the clamp, tied the artery, and united the two flaps with catgut sutures. There was complete healing of the incision on a level with the surrounding tissue. He was not surprised, after making the microscopical examination, that a large amount of blood had come out of the tumor. There was no capsule; the tumor substance was immediately beneath the epidermis, which was very thick, and contained normal papillae, but no hair follicles nor glands. In the more superficial part there was considerable connective tissue with different cells interspersed. In the deeper part the cell material was very much increased while the connective tissue was decreased in amount, so that there was a fine connective tissue reticulum full of protoplasmic matter, constituting what was called myxomatous tissue. Everywhere large numbers of arteries and veins were seen.

Dr. W. M. CARPENTER remembered to have seen two cases in which the tumor was attached either directly or very close to the labia.

PEYLO-NEPHRITIS.—Dr. H. N. HEINEMAN presented specimens removed from the body of a man, forty-five years of age, who was admitted to the hospital the day before. On admission the temperature was 100.5° F. It afterward fell to 97.5°. Patient was in a moribund condition; there was sero-sanguinolent expectoration, and some blood was passed with the urine. Death took place at 1 A. M. At the autopsy, petechiae were found on the surface of the body. There was marked pulmonary congestion, with œdema. There were also some lesions in other organs, but the chief interest attached to the condition of the kidneys. The man had gonorrhœa twenty years ago, and subsequently chronic bladder trouble. The autopsy had not been fully completed, but the history pointed to stricture of the urethra, and doubtless such would be found. The walls of the bladder were thickened, and the mucous membrane was the seat of recent inflammation. One of the kidneys was enormously

increased in size, and was the seat of pyelo-nephritis. The other kidney presented in a more marked degree the ordinary lesions of chronic Bright's disease and in a less degree pyelo-nephritis. It was probable that the bladder and kidney troubles were secondary to stricture originating in gonorrhoea, and that the numerous hæmorrhages found in different organs and on the surface of the body were due to a septic influence.

CYST OF THE BROAD LIGAMENT TWISTED UPON ITS PEDICLE, SIMULATING ENLARGEMENT OF THE UTERUS.—Dr. ELIZABETH M. CUSHIER presented the specimen, which was removed from the body of a girl who died in her sixteenth year. She was admitted to the infirmary on the 26th of March. She began to menstruate at the age of fourteen. At first, menstruation was profuse. During the following two years it was irregular. Last summer there was suppression of menstruation for nine weeks. It then came on and was very profuse. The flow had diminished somewhat until four weeks previous to admission, when there was again profuse hæmorrhage, which continued until her death. Until a week previous to admission she had been attended by another physician. She was then visited by the district physician, who tamponed the vagina. On one occasion she was found with the muscles in a state of tonic contraction, and there was complete insensibility. With this exception there had been no other symptoms than those of hæmorrhage. She was said to be a nervous girl, and earlier in life had had chorea. A vaginal examination was made, and blood-clots were removed. The neck of the uterus was found to be dilated, and there was a tumor in the median line reaching half way to the umbilicus. The temperature and the pulse at that time were normal. Ergot was at first given, with the effect of apparently diminishing the hæmorrhage, but it recurred profusely. When brought to the infirmary on the 26th she was still flowing moderately. That evening there was noticed for the first time a slight elevation of the temperature, which was 100.5° F.; the pulse was 110. When Dr. Cushier saw her, on the 27th, there had been free hæmorrhage, the vagina contained dark clots, the patient was perfectly pallid, and the pulse was quite weak; the finger could be introduced as far as the internal os. The tumor in the median line gave the impression of pregnancy of about four months and a half; pressure upon it communicated an impulse to the finger on the cervix. The girl said there was a possibility of pregnancy. The tumor seemed rather soft, and gave not altogether the sensation of the pregnant uterus, but it seemed that it could not be accounted for in any other way. The hæmorrhage was quite free, and it was decided to introduce disinfected laminaria tents of small size. In the afternoon of the next day the tents were removed, but the uterus contracted so that only a sound could be introduced. The cavity still measured but three inches, as it had done before the use of the tents. It had been previously supposed that something prevented the entrance of the sound to the full depth. Examination was also made *per rectum*. Extra-uterine pregnancy was thought of, but could not be confirmed. The patient vomited incessantly, diarrhoea set in, the temperature at one time rose to 103° F., the pulse was feeble and at times irregular, and death finally ensued April 1st. The patient remained conscious to the last. At the autopsy a tumor of about the size of a child's head lay above the pubes, and was found to be a cyst of the broad ligament with a long pedicle, the latter being twisted in such a way that the tumor was held firmly over the fundus of the uterus, directly in the median line. The pedicle was probably twisted upon itself twice. The uterus was enlarged, but it was uncertain whether there had been pregnancy, or whether the enlargement was a simple hyperplastic increase. The other abdominal organs were normal except for their extreme pallor. The lungs were oedematous. There was some

mitral insufficiency, which had given rise to a murmur during life.

Dr. Cushier regarded the case as one full of interest, particularly with reference to the difficulty of diagnosis. Looking at the tumor on the table, the diagnosis would appear easy, but it had been altogether different during life. The patient was seen by several physicians of acknowledged skill, and the true condition was not recognized. The possibilities of a fibro-cyst, of a gravid uterus, of an enlarged uterus with some growth within its cavity, and of extra-uterine pregnancy, were all questions which presented themselves and could not be satisfactorily decided. Another point of interest was with regard to the cause of hæmorrhage from the uterus. In the light of the autopsy the question arose whether it was not due to interference with the return circulation by the twist of the pedicle. As to the cause of death, she thought it still remained uncertain.

Dr. GARRIGUES said there were but two ways of determining whether or not pregnancy was present. The one was by examination of the specimen, and the other was from a study of the clinical symptoms. With regard to the latter, according to his experience, the earliest signs of pregnancy were to be found in the mammae, with the exception of the somewhat doubtful gastric symptoms. He had been able to detect pregnancy as early as the sixth week by simple inspection of the mammae. It would be found that the limiting line of the areola lost its sharpness at a particular spot—namely, upward and outward. There the line became indistinct early in pregnancy, there being simply dark-colored, tongue-like projections from the circumference. At the same time there would be found some increase in the volume of the gland, but this sometimes occurred in the virgin. Another sign was the violet color of the vagina. As to hæmorrhage after abortion, it was much more likely to be found in cases in which only the ovum was thrown off, the decidua being left.

He never used tents except in extreme cases. They were very dangerous. As to the cause of death, it was probably septicæmia.

Dr. MARY PUTNAM JACOBI thought a study of the history of the case and of the post-mortem appearances would point to death from acute anæmia and heart failure rather than from septicæmia.

CARCINOMA OF THE STERNUM, CLAVICLE, AND ILIUM.—Dr. F. FERGUSON presented specimens and microscopical slides illustrating carcinoma of the bones mentioned.

ACUTE GENERAL MILIARY TUBERCULOSIS.—Dr. FERGUSON also presented a uterus the mucous membrane of which contained tubercular deposits, being the first instance in which he had seen miliary tubercles in this situation. The patient was thirty years of age, and died in a comatose state, from tubercular meningitis, five weeks after the beginning of her symptoms. The case was interesting because of the insidiousness of the invasion of the disease, and because of its rapid course. Tubercles were also found in the lungs and other portions of the body.

FIBROID INDURATION OF THE HEART.—Dr. FERGUSON also presented a number of hearts illustrating myocarditis, or fibroid induration of the walls of that organ. In some the disease was more marked than in others; in some it was associated with endocarditis, in others with pericarditis, and in still others neither of these conditions was present. In almost all the cases there was also extensive chronic diffuse nephritis, and many of the patients suffered from rheumatism, but syphilis was usually denied. It had generally been supposed that the condition was often due to syphilis. The lesion was in every instance in the left and not in the right part of the heart.

PERITONITIS IN THE INFANT.—Dr. J. LEWIS SMITH had seen

a patient only the day before its death, which occurred on the fourteenth day after birth, in which there had been nothing unusual. A week before his visit the nurse said the child had been very fretful. An increase in the temperature was afterward noted. He found evidence of peritonitis. There was great distension of the abdomen, with meteorism; the child cried when pressure was made over the abdomen. The rectal temperature was 102.4° F. During the first ten days of life the child had gained only one ounce in weight. Some matter could be squeezed from the umbilicus. The cord had separated at the seventh day. The autopsy was made by Dr. Welch. The most marked lesions were found along the course of the umbilical cord, where fibrinous pus was quite thick. The lymphatic vessels along the lower surface of the diaphragm were also filled with pus, and Dr. Welch had stated that there probably would have been an extension of the inflammatory process to the pleura had the child lived longer. The umbilical vein was filled with grayish-red, broken down, and purulent thrombi, closely adherent to the walls of the vessel. Dr. Welch explained the peritonitis by the statement that micrococci, which were present, had found their way through the umbilical vein into the peritoneal cavity, and this fact also explained the reason for there having been a greater degree of inflammation along the course of the vein. Dr. Smith said that, if this explanation of peritonitis in these little patients was accepted by pathologists, it was interesting and suggestive. Some weeks ago there had been some puerperal fever and erysipelas in the maternity wards of the institution where the child died, and for that reason the wards were closed for a time. Whether the present case was in any way connected therewith he was unable to say.

Dr. W. P. NORTHRUP had seen four cases of peritonitis in children, one of which was nine, another eleven, and a third twenty days old. He did not remember the age of the fourth. In all these cases the umbilical vein was carefully examined, and in none was thrombus found. The stamp of the cord had previously come away and left a perfectly healthy navel. In one case there was an abscess of the shoulder, which was the only other lesion which could possibly have attracted attention, and no connection between this and the peritonitis could be traced. There was no pleuritis; all the thoracic viscera were healthy. All four of the cases were, so far as could be ascertained, cases of idiopathic, acute, diffuse peritonitis. In reply to a question, he stated that the cases did not occur at a time when puerperal fever had been present in the institution; they occurred at different periods, extending over some months.

Dr. JACOBI did not think that absence of a thrombus in the umbilical vein in Dr. Northrup's cases necessarily excluded infection as a cause of the peritonitis. She could not but suppose there was infection in the case of abscess of the shoulder. The occurrence of an abscess and of peritonitis at the same time was at least very suggestive.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of March 20, 1884.

THREE CASES ILLUSTRATING SOME POINTS IN THE PATHOLOGY OF CERTAIN INJURIES OF THE SHOULDER JOINT.—Dr. C. B. NANCREE read the following paper:

A few preliminary anatomical points must be passed in review for the ready comprehension of my later remarks. The shoulder joint differs in many important points from any other articulation of the body. A moment's reflection upon the almost unlimited range of movement which it enjoys will at once suggest that the ligaments of this articulation can not be the means by which the joint surfaces are held in apposition; other-

wise anything like freedom of movement would be impossible in a ball-and-socket joint where the socket is so shallow as in this articulation. What, then, does hold, firmly apposed, the articular surfaces? It must be something always tightly stretched, yet always capable of lengthening, or rather always practically loose. Nothing but muscle could fulfill any such purpose. In truth, the muscles surrounding the joint are the most important ligaments the articulation possesses. When these are paralyzed, or in the cadaver, the head of the humerus readily falls away from the glenoid fossa. Bearing this fact in mind, you will clearly apprehend that the joint surfaces are kept pressed together solely by muscular tension. Again, the glenoid fossa, unlike the socket of any other important joint, *has no epiphysis*, which explains to a degree the fact that even in the young the head of the humerus may be so affected as to demand excision, while the glenoid process is either entirely or nearly healthy. Closely related with the scapulo-humeral joint we find a number of bursae, some of which commonly communicate with the joint, while others do not. To the former alone I shall devote my remarks. There is a large one between the acromial process and the coraco-acromial ligament upon the one hand and the shoulder capsule upon the other. Two bursae—the exact sites are unimportant for our present purposes—are situated between the subscapularis muscle and the capsule. An occasional one is placed between the infra-scapular muscle and the capsule, into which it often opens, as do the others just mentioned. Let an inflammation be set up in these sacs, and it certainly spreads to the joint itself, should communications exist, or nearly as surely by mere contiguity of tissue, if no opening between joint and bursae is present. The articulation is securely covered in by the voluminous deltoid, so that any direct injury to the fibrous or synovial tissues of the joint is almost impossible from direct force, as a blow, although a twist *may* injure it, notwithstanding the latter is more apt to tear the bursal walls. The upper epiphyses of the humerus—of which there are three—coalesce at five years, but they leave a layer of epiphyseal cartilage between head and tuberosities and shaft, which in places either coincides with the capsular attachment or is actually within it. From these anatomical facts it must be clear that direct force, as a blow, can rarely injure the joint itself, but must set up trouble either in the surrounding bursae or in the epiphyseal cartilage, or in both. Once again, the interior of the joint, the muscles moving the joint, and the skin over their attachment, are all supplied by the same nerve or nerves; so that, let a joint injury start where it may, the articulating surfaces of the shoulder joint are subjected to such an injurious degree of pressure from direct or reflex muscular contraction as is possible for no other articulation. The bearing of these anatomical facts upon prognosis and treatment need hardly be pointed out.

The first specimen I proposed showing was presented to the society some years back, and my reason for again showing it is the sharply contrasted result presented by the second specimen which I shall exhibit.

On November 27, 1878, the society had an opportunity of examining the first patient and the admirable results of the case. To those who were not present, or who have forgotten the details, I will briefly recapitulate the history of the case, with the treatment pursued.

Compound Fracture of the Anatomical Neck of the Humerus.—The patient, J. M., aged fourteen years, fell, upon the afternoon of September 23, 1878, from a tree about twenty-five feet, landing on the ground, but striking in his fall against the branches of the tree, and sustained the following injuries: The shaft of the humerus was separated from the head and greater and lesser tuberosities. The line of fracture closely followed the epiphyseal cartilage, although in several places the

diaphysis was fractured. The shaft, slightly split, was driven through the integuments over the lower part of the deltoid muscle on its anterior aspect, tearing in its course the following parts: the insertion of the deltoid was completely stripped off with the subjacent periosteum; the coraco-brachialis, teres major, and latissimus dorsi were in like manner torn off, the latter carrying with them the posterior lip of the bicipital groove. The tendon of the pectoralis major was torn off about half an inch from its insertion, and one, if not both, of the heads of the biceps was ruptured. In consequence, the head and neck of the bone, deprived of periosteum, merely hung suspended by the capsular ligament and the rotator muscles. The shell of bone connected with the head and tuberosities was fissured at various portions of its circumference, as if by the impacting action of the wedge-shaped extremity of the shaft. I enlarged the wound and removed the fragments you see, viz.: four and a quarter inches of the humerus, including its head. Seven weeks after the operation he could remove his coat, vest, and shirt without assistance. Ten weeks after the injury considerable reproduction of bone, even up to the margin of the glenoid cavity, was observed, with new attachments for the pectoral and latissimus dorsi muscles, as determined by Dr. C. T. Hunter. The actual shortening consequently amounted to only one inch and a half. He had perfect use of the forearm, could put his hand to his mouth, behind his back, and to his ear. Of course, he had lost all over-hand movements.

The course of treatment pursued, and my reasons for deciding upon it, seem worthy of detail, since such injuries are but seldom seen, and, as far as I can discover, no clear rules have been laid down for their treatment. To the members of this society who devote themselves especially to surgery, I need hardly say that no question of amputation arose in my mind; but to those in pure medical practice I would say that when the main vessels and nerves of a limb remain intact, the injury to the soft parts having been produced by the bone itself, not the fracturing force, almost any degree of shattering of the bones may be recovered from, in the young, without amputation. Two lines of treatment then offered for consideration—viz., the simple return of the bone, closure of the skin-wound, drainage, and trusting the case to nature; or the resection of the injured bone. Theoretically, the first would have seemed the better course, promising no shortening of the limb, and the retention, in a measure, of the power of the deltoid. In reality, however, the chances of union were not one in a thousand; and if not union, then necrosis with its consequent shortening; necrosis, too, meaning months or years of inflammation and supuration, matting the muscles together so that when recovery occurred—almost necessarily by an operation—the uselessness of the limb would be but slight. Resection, on the other hand, offered the complete removal of all injured portions of bone, and with them the most important factors of trouble after such an injury, thus permitting rapid healing, and the smallest possible amount of inflammatory adhesions between muscles, tendons, etc. If the bone had been simply returned, the risk to life would have been greater, owing to the prolonged supuration incident upon the separation of the necrosed bone and the deep-seated abscesses so common after compound fractures. Against it was the absolute shortening of the arm, with the prospective cessation of growth due to removal of the upper humeral epiphyses.

The actual result, I think, bears me out in the course of treatment pursued, for I hardly think that in seven weeks he would have been in so good a condition, with the wound soundly healed, if I had followed what is often, but falsely, called the "conservative" plan of treatment. I believe that true conservatism indicated exactly what I did. The amount of shortening would not have been much less had the case been left to nature and necrosis. Had this occurred, union of the severed head could not have taken place; and then the same shortening would have obtained as surely as if the epiphysis had been re-

moved. Army experience has shown that, when a portion of the upper end of the humerus is removed for injury, nothing is gained by leaving the uninjured head, since it necroses.

Although not cognizant of this fact of experience at the time of operation, anatomical knowledge, general surgical principles, and experience induced me to arrive at a conclusion by *a priori* reasoning which I have since found that extended experience had already proved.

I believe, therefore, that, theoretically and from experience, resection ought to be performed for such injuries. It is hardly necessary to say anything about the operation itself, since each case must be a rule for itself, the only point being to remove the bones with as little additional damage to the soft parts as practicable. The wound was dressed antiseptically, and, when I transferred the wards to my colleague, Dr. Packard, no supuration had occurred, and there was not the slightest inflammatory blush about the wound. He did uninterruptedly well, and the wound was soundly healed in less than seven weeks, the greater part at a much earlier date.

Sharply contrasted with this case and its results is that of the patient from whom the next specimen was removed, where the head of the humerus, luxated and partially fractured and protruding through the skin of the axilla, was *reduced* instead of being resected. Here the tension of irritated lacerated muscles, conjoined with the necessarily imperfect drainage, kept the injured bone bathed in unhealthy pus. This, with the original injury, resulted in an osteo-mylitis, which necessitated my amputating at the shoulder joint. I believe, had the head of the bone been removed, a fairly useful limb would have been the result at the end of a few weeks' treatment, while instead, after three months of illness and risk to life, amputation was the best I could do for him.

Compound Luxation (with Fracture) of the Shoulder Joint.—A man, aged thirty years, three months ago had his right arm caught by the belting and drawn over a large drum in a position of extreme abduction and probably of extension. The head of the bone was luxated, the greater tuberosity torn off, and the caput humeri thrust through the axillary integuments near the anterior axillary fold. When I first saw him at the Episcopal Hospital after the accident he was very pale, with a constant discharge of pus from an opening at the site of the old wound—i. e., near the anterior axillary fold—while the orifice of another deep-seated sinus was seen over the middle of the triceps on the outer side of the arm. A probe introduced into the anterior sinus readily touched the denuded carious head of the humerus. I attempted to excise the head of the bone, but, when I prepared to saw it, after its protrusion through the wound, I found such evidences of osteo-mylitis as to render amputation at the shoulder joint necessary. He did well and recovered, but even some months later a sinus existed, doubtless the result of necrosis of some of the fragments of periosteal bone, produced by that irritated structure. As before said, had the head of the injured bone been excised, a useful arm would have probably resulted.

The third and last case is one where a comparatively trivial injury, owing to non-treatment at first, resulted in a condition which demanded resection of the shoulder joint.

Chronic Arthritis of the Shoulder; Epiphyseal Abscess of the Humerus.—Anna M., aged seventeen years, was admitted to the female surgical ward of the Episcopal Hospital, May 14, 1883. One year ago last May she fell down stairs and struck her shoulder. She was unconscious for a short time, but was soon able to walk home. The arm did not become inflamed, and seemed to the patient well. Nine months after the fall she noticed pain in the shoulder, and an elevated papule formed near the joint, which was opened at the dispensary. This relieved the pain, but left a fistulous tract discharging healthy pus. She attended the dispensary until the 14th of last May, when she was sent into the house, Dr. Seltzer, the assistant

surgeon on duty, having touched dead bone with the probe. After admission she had pain from time to time, gradually increasing in intensity until shortly before operation. Other free openings for drainage were made by Dr. Simes and Dr. Kelley. The probe detected an apparent sequester within the humeral head. Diagnosis, epiphyseal abscess. The operation showed complete destruction of the joint, a carious and denuded humeral head with an abscess about the epiphyseal site containing a sequester. The glenoid cavity was denuded of cartilage and roughened. The portions of head and shaft, such as you see, were removed, while all the glenoid cavity was cut away with the gouge-forceps, except where the long head of the biceps was attached. Further details of the operation are unnecessary. The patient was practically well at the end of two weeks. Perfect quietude of the joint at the outset might have averted all subsequent trouble.

What was the condition here after the accident? Probably the bursa and fibrous tissues surrounding the joint were involved, and the vascular epiphyseal cartilage was congested from the jar and injury of the fall. Congestion of all these parts, instead of being relieved by complete functional rest of the articulation, with the local application of ice, leeches, etc., as appeared indicated, was kept up by the girl following her usual occupation of housework. Although in no sense markedly strumous, yet the tendency was in that direction. As the congestion increased, inflammation and suppuration were set up in the bursa, the disease spread to the articulation, gelatinous arthritis with epiphyseal abscess supervened, notwithstanding the skillful treatment of my colleagues who, *too late*, had the opportunity of treating the case.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 3, 1884.

THE PRESIDENT, R. A. CLEEMANN, M.D., in the chair.

DIGITAL DILATATION OF THE OS UTERI DURING LABOR.—THE PRESIDENT said that he had been taught not to dilate or stretch the os uteri with the finger, and for years this early teaching had deterred him from making any attempt to supplement the contractile powers of the uterus by assisting in the process of dilating the os. Some time since he was called to attend a primipara. The waters had been discharged the previous day, the pains had continued, but the os uteri was very small and the cervical rim hard and unyielding. He felt called upon to interfere actively, and tried to dilate the os with his finger; it softened rapidly, and in half an hour was sufficiently dilated to allow the head to pass, and delivery rapidly followed. Since that occasion he had tried the same procedure in several cases, and always with gratifying results, the labors being brought to rapid terminations where previously hours had been wasted in weary and painful waiting. The irritable condition of the os, which had been lectured upon as the consequence of such interference, he had not observed; no injury had resulted in any case. The soft finger could do no more harm, if clean, than a Barnes's or other form of dilator, and there was no danger, as with the latter, of pushing the head aside and converting a vertex into a shoulder or other faulty presentation.

Dr. W. T. TAYLOR, since he had dared to deviate from the teaching of Professor Hodge, had used his finger to assist the dilatation of the os; he did not do so if the cervix was irritable or its edge wiry.

Dr. W. H. H. GITHENS had practiced digital dilatation of the os uteri throughout his obstetrical practice, a period of eighteen years. He did not confine it to any class of cases, nor did he wait until after the membranes were ruptured. In any or all

cases he found that a "pain" was accompanied by a contraction of the circular muscular fibers of the cervix as well as of the longitudinal fibers of the body of the uterus. The contraction of the circular fibers retarded the progress of the labor. The intention of the digital distension was to paralyze these circular fibers, and thus favor the dilatation of the os. In practice this effect was rapidly produced. One or two fingers were swept around the inside of the cervix, the pulp of the finger being next the cervix, and the latter was pulled away from the head. This operation was kept up during the interval between pains; when the pain occurred the finger was withdrawn; the operation was repeated in the next interval. The membranes were not ruptured by this process. The irritable condition of the os, if it existed, was subdued. If the rim of the cervix was wiry and thin, or hard and thick, it softened and yielded; the cervix and vagina, if hot and unyielding at first, became cool and pliant; cervical tears were almost entirely avoided, and the time, pain, and exhaustion of the labor were reduced to a minimum. The process was useful in every case of labor throughout the first stage.

Dr. PHILIP M. SCHIEDT practiced digital dilatation largely. His patients said they recognized the assistance it gave them, and in subsequent labors asked him to help them. By the great shortening of the first stage of labor resulting from this method the use of the forceps was frequently avoided.

Dr. THEOPHILUS PARVIN would be sorry to see digital dilatation adopted as a rule for all cases. The fingers, used as recommended, did not act solely, possibly not chiefly, as dilators, but by evoking uterine contractions. Voluntary efforts at bearing down were not needed during the first stage; they were dangerous rather than helpful. The method might be useful in some cases after the rupture of the bag of waters, which was the natural dilating agent. There was also danger of septicæmia from germs on the fingers. He did not think the finger so good a dilator as Barnes's dilator, because unequal, partial pressure upon the os did not evoke the decided uterine contractions that uniform pressure generally did. He thought the danger of a change of presentation by the use of Barnes's dilator was very slight. He would prefer a mechanical dilator to the finger whenever dilatation was necessary, but thought something ought to be left to nature. Any sort of interference involved a possibility of danger.

Dr. ELLIOTT RICHARDSON thought there was a possible danger of rupturing the membranes. Authors cautioned us about the introduction of the finger into the uterus and the too early rupture of the membranes.

Dr. R. P. HARRIS remarked that one point had been overlooked. Why did the os not dilate easily when the head was the dilating agent? It was because it was a round surface over which the cervix did not slide easily. On the contrary, the finger was applied at successive points. One benefit of the method was that any change or danger was at once detected. The method should not be used indiscriminately, and we should not interfere unnecessarily.

THE PRESIDENT would not recommend the method in every case of labor. He had resorted to it in cases where there had been early rupture of the membranes, and the assistance of the bag of waters had been lost. In a recent case he had saved a patient hours of suffering, and the os was not bruised or injured in any way. The sight of any instrument caused the patient much anxiety, and the exhibition of Barnes's dilator, with the water, syringe, etc., caused nervous excitement. The bags sometimes burst, and thus gave the patient a terrible shock, with the added discomfort of the escaping water or air. He had always carried them, but did not like to use them.

EXANTHEMATOUS DISORDERS IN THE PUERPERAL STATE.—Dr.

PARVIN had recently had an experience of the invasion of measles and scarlet fever in the obstetric wards of the Philadelphia Hospital. In the first case in which measles occurred he did not think that the full term of pregnancy had been reached. Authorities stated that premature labor was usually caused as a result of the high temperature of the exanthematous fever. One patient had septiciæmia in addition, but recovered. The infants were not affected. In one case, soon after labor, the temperature rose to 103° F., and the patient was sent to the fever ward; at the second visit a slight rash was observed, which subsequently proved to be that of scarlatina. Desquamation was very abundant. Albuminuria was very marked on the tenth day; rheumatic pains were also felt. The patient recovered, and the child remained well. Children had been born with measles, but he did not know of such an experience with scarlet fever.

Dr. W. T. TAYLOR had reported in the "American Journal of the Medical Sciences" for 1853 a case of congenital small-pox. The mother had some febrile symptoms and pain in the back, and the child had the disease, being marked with pits. He had had a case of scarlet fever in a mother two days after labor. It proved fatal in two days; the child lived.

Dr. HARRIS remarked that in the reports of the Rotunda Maternity Hospital in Dublin there were a number of interesting reports on complications of the puerperal period by exanthematous fevers. Their mortality had been very materially influenced by these epidemics. Erysipelas was the most interesting and the most fatal of these complications. In some cases it resembled septic poisoning.

W. H. H. GITHENS, M. D., *Secretary*.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of March 28, 1884.

The President. Dr. HENRY BEATES, Jr., in the chair.

SUDDEN DEATH IN DIPHTHERIA.—Dr. DANIEL LONGAKER reported the case of Mary F., aged six years, who was seen first on the afternoon of the second day of the disease. Her temperature was 104.25° F., and the general symptoms were of a decidedly adynamic type. She complained of pain and difficulty in deglutition, and a nasal tone of the voice was noticed. On inspection of the throat, congestion and swelling were evident, and a small patch of false membrane was found on the right tonsil. The local trouble continued to grow worse until the fourth day, and was associated with a diminished secretion of urine, in which albumin was found to be present. The membrane was detached on the sixth day, and by the tenth convalescence was established. On the thirteenth day she was seen for the last time. Her pulse was a little accelerated in frequency and still weak. Her appetite was good, and she was sitting up and going down stairs. Two days later, the fifteenth of the disease, after rising in the morning and feeling quite well, she suddenly fell from the chair from which she was attempting to rise and expired.

UMBILICAL HÆMORRHAGE.—Dr. JOSEPH S. GIBB read a paper with this title. In the preliminary remarks he spoke of the neglect of medical writers in omitting this important topic from their works, in spite of the oft-repeated mention of this negligence by individual observers, who, while investigating, have sought in vain in most of the standard works of the day for some account of this accident. Notable exceptions to this are the works of Simpson, Condie, and, more particularly, Dr. Bedford, of New York. The author spoke of the rarity of the accident, and proved the same by reference to the records of maternity hospitals and founding asylums, and also by the ex-

perience of the older members of the profession, and finally presented a collection of 241 cases, which represented those which had been published since 1752.

Dr. Gibb's case was that of a female child whose mother was a "bleeder." Hæmorrhage began on the third day from birth; no single bleeding point was observed. The hæmorrhage was simply a continuous oozing from the bottom of the umbilical depression. Several ligatures were applied directly to the cord, and then the ligature *en masse*, all of which failed to control the hæmorrhage. This was finally accomplished by a solution of the sub-sulphate of iron painted over the umbilicus, a pledget of cotton saturated with the same being bound fast over it. The child suffered considerably from the profuse bleeding, but soon rallied after its cessation. She was strong and healthy when last seen, one month from the date of the accident. There were no premonitory or accompanying symptoms. It was simply a spontaneous umbilical hæmorrhage.

The author would make three divisions of the subject: 1. Hæmorrhage from improper ligation of the cord. 2. Hæmorrhage the result of traumatism. 3. Spontaneous hæmorrhage. The first and second received but cursory attention, the cause and remedy being apparent. The third variety formed the true basis of the paper. He did not believe that any of the so-called premonitory symptoms—viz., colicky pains, jaundice, etc.—could be relied on as such, but thought they might occur in otherwise healthy infants or precede other affections. However, he laid stress on the fact of a hæmorrhagic diathesis existing in either parent, and believed this should make us watchful. He regarded the subjects of umbilical hæmorrhage as suffering from a general disease, and the hæmorrhage as the first symptom of this disease. This symptom might occur at any time, from a few hours to eight weeks after birth. The next most important symptom was jaundice. Both these symptoms occurred in an equal number of cases.

As regarded the ætiology, the author believed there was a direct relationship between the hæmorrhage and some constitutional condition of the infant, which condition might be either hereditary or congenital. The hæmorrhagic diathesis was given a first place in the list of causes. It was not considered absolutely necessary to invoke the aid of the hæmorrhagic diathesis in the parent to establish the existence of this condition in the offspring; in other words, it might be congenital. Attention was drawn to the hæmorrhagic symptoms in these cases, viz.: hæmorrhage from the bowels, the gums, and the funis, as proof of this peculiar condition being a strong ætiological factor. Jaundice was mentioned as forming the favorite ground of most writers on the subject as a causation of umbilical hæmorrhage, but the theories on which this was based were not regarded as substantiated by post-mortem examinations. In but few of the recorded cases were there any indications of a syphilitic or scrofulous taint. Various other minor causative influences were noted; viz., the excessive use of alkalies by pregnant women, insufficient food, etc.

In conclusion, it was recognized that, in the present crude state of our knowledge of umbilical hæmorrhage, we were obliged to admit several ætiological factors. In an analysis of the reported cases, there was found to be a strong predisposition on the part of the male to the occurrence of this accident. In 115 cases collected, where the sex is mentioned, 67 per cent. of the patients were males.

The morbid anatomy of the subject was very incomplete, being made up of statistics as to the potency or non-potency of the fetal openings and the vessels, the condition of the liver, and the character of the blood; from all of which no satisfactory conclusions could be drawn.

The prognosis was stated as exceedingly grave, the mortal-

ity being 83 per cent. in 230 cases. The fatal termination might occur at any period, from one hour to eight weeks after the commencement of the bleeding. In 94 cases, where the time of death had been stated, 47, or 50 per cent., occurred within the first forty-eight hours, twenty-five in the first, and twenty-two in the second twenty-four hours.

The success of therapeutical measures, the author believed, lay in a proper appreciation of the nature and causes of the disease, and, until these were accurately determined, umbilical hæmorrhage would continue to resist all well-meant therapeutical resources.

In the present state of our knowledge the author believed that that treatment would be the most successful which consisted of local styptics, the ligature, etc., combined with such internal hæmostatics and tonics as experience had proved to be of value in the kindred hæmorrhagic affections of adults.

Dr. CHARLES K. MILLS said he had had one very interesting case of umbilical hæmorrhage, which ended in recovery. The subject was the fourth child of perfectly healthy parents, the three other children also being healthy. There was no trouble until the third day after birth, when an oozing was found at the umbilicus, and the child vomited blood. The cord was examined and found not to be bleeding at the extremity. Subsequently, styptics were applied without result. The hæmatemesis occurred on three occasions during the following twenty-four hours of occasional hæmorrhage. The bleeding was finally controlled by transtfixion with needles, and the administration of a half-drop of aromatic sulphuric acid every two hours. The child recovered and was now perfectly healthy.

Dr. HANNAH T. CROASDALE had seen but two cases of umbilical hæmorrhage. The first was from shrinkage of the cord, which contained a great amount of gelatinous material. After the ligature was closely reapplied, the bleeding began again from the cut extremity. She then applied Péan's hæmostatic forceps, and left it in position twenty hours. In the other case the hæmorrhage was controlled by tightening the ligature.

Dr. MARY WILLITS mentioned the case of a child a week or ten days old. After considerable hæmorrhage the bleeding was checked by styptics and a compress.

The PRESIDENT said that, in a case seen by himself, the autopsy had shown gangrene of the ileum. There was also sloughing at the extremity of the cord.

Dr. GIBB said the relation of the hæmorrhagic diathesis to umbilical hæmorrhage was yet a question. There seemed, however, to be two things intimately connected with it—the hæmorrhagic diathesis and jaundice. The case reported by Dr. Mills would rather support the former theory.

Dr. ALBERT H. SMITH had seen two cases of the kind referred to. The first occurred at the end of twenty-four hours after birth, in a healthy child. On attention being called to it, the ligature was found loose; this was reapplied carefully. On the following morning the nurse again discovered hæmorrhage, and the child died before he could reach the house. This was not a case of neglect or of traumatism. The other instance occurred also in a perfectly healthy child forty-eight hours old. The cord was tied by himself, but he soon found hæmorrhage occurring freely from the tissue around the cord. A large compress of absorbent cotton was applied by means of Seabury and Johnson's plaster, and a teaspoonful of magnesia was given internally. The child was saved. In these two cases there were no hereditary tendencies to this form of trouble; no jaundice; no purpura hæmorrhagica in either the mothers or the infants themselves. We had not, so far, reached any reasonable theory of its etiology. Jaundice seemed a coincidence. Great stress had been laid on hæmophilia, but his experience did not bear it out. In

a family under his care, four out of five had died of hæmorrhage, but none had shown any tendency to umbilical hæmorrhage. In the autopsies of fatal cases no uniform or persistent conditions had been found. His cases were somewhat remarkable from the fact that recoveries were rare.

In the treatment we could hardly expect a compress to do much, yet he thought this application the best that could be made. A laxative would contribute to lessen blood pressure and act as a revulsive. He would suggest that hæmorrhage from the non-application of a ligature would rarely occur in health, if we were to judge by the fact that in Germany they seldom tied the cord. Difficulty might certainly arise from too early ligation. His practice was not to ligate until the cut extremity had ceased bleeding. It is evident that loosening the ligature would be a dangerous experiment in some of these cases.

Dr. COLLINS exhibited a bullet that had been removed from the anterior nares of a man. It had remained imbedded in the turbinated bones since 1865. An opening in the nasal septum remained, produced at the time of the injury.

G. BETTON MASSEY, M. D., *Secretary.*

Miscellany.

Therapeutical Notes.—*Mercury in the Treatment of Syphilis.*—At a recent meeting of the Philadelphia County Medical Society, in a discussion that followed the reading of a paper by Dr. John Ashhurst, Jr., Dr. John V. Shoemaker said that the use of mercury by the mouth, as recommended by the speaker, would not answer in all cases. In some the alimentary canal would not tolerate the drug, particularly in debilitated and broken-down persons. In others the mercury at times failed to make any impression, and in such instances it often passed out of the body with the secretions. He recalled a case of secondary syphilis in which he administered for several months, first the protiodide, and afterward the corrosive chloride of mercury, both in small and in large doses, without making the least impression. In this instance he afterward treated the patient by the use of the corrosive chloride of mercury hypodermically, injecting one tenth of a grain, dissolved in water, deep into the subcutaneous cellular tissue, and a cure followed within a few weeks. For the past three or four years he had followed, to a large extent, this plan of treatment with good results, and had never seen any unpleasant consequences. If the needle was in good condition, a gold one being preferable, and the operator inserted it deep into the cellular tissue, either in the superior or inferior scapular or the sacral region, abscesses would not follow. The eczematous condition of the skin that sometimes followed the inunction method of treatment, referred to by Dr. Ashhurst, could very often be avoided by using, before the inunction of the mercury, a hot-air or steam bath. At the Philadelphia Hospital for Skin Diseases he always preceded the inunction with either one or the other form of bath alluded to; it caused the ointment to be absorbed better, and thus prevented the irritation to the skin.

The Physiological and Therapeutical Action of Caffeine.—The "Gazette hebdomadaire de médecine et de chirurgie" gives the following summary of the conclusions arrived at by Dr. E. Leblond as the result of a number of experiments on man and on the lower animals: In physiological doses, caffeine is an excitant of the nerves and muscles; it decreases the frequency of the pulse, heightening the energy of the heart's action and the vascular pressure; it lowers the peripheral temperature; it has no effect on the formation or the excretion of urea. In poisonous doses, it exaggerates the excito-motor power of the medulla, paralyzes the peripheral sensory nerves, and thus acts upon the pneumogastric, diminishing its excitability; it rapidly lowers the blood-pressure by paralyzing the vaso-motors; in cold-blooded animals it

causes progressive retardation of the heart's action, finally stopping it in systole, while in warm-blooded animals it accelerates it toward the close, and arrests it in diastole; it has a tetanizing effect on the muscles; it lowers the temperature rapidly; it increases the waste of tissue. As concerns its therapeutical employment: 1. It is generally much better borne than digitalis, and, beginning with small doses, we need not fear the unpleasant effects often produced by the latter. 2. It produces regularity of the heart's action, increasing the force and reducing the frequency of its beat. 3. It provokes more or less diuresis. 4. Not only is it a substitute for digitalis, but it should always be given in grave cases, and those that threaten to prove fatal speedily, for under such circumstances it acts more surely and much more promptly than digitalis. 5. It should be given in divided doses, either in the form of a draught or hypodermically, and at the outset it should never be used in larger doses than 20 centigrammes, so as to test the patient's susceptibility, after which the dose may be increased rapidly up to between 50 and 75 centigrammes, if necessary; it is useless to go beyond a gramme and a half. 6. To sun up its therapeutical indications in diseases of the heart, it should always be employed whenever, from any cause, it becomes necessary for a patient to suspend the use of digitalis, or whenever the latter produces unpleasant results. 7. It seems to reduce the temperature in inflammations; furthermore, it is very useful as a cardiac tonic in such cases. 8. It is often of great benefit in cases of albuminuria, whether of cardiac or other origin. 9. Finally, it seems to act on the muscular structure of the intestines in cases of stranguled hernia.

TESTIMONY IN MALPRACTICE SUITS.—In a recent malpractice trial in Pennsylvania, the case being one of fracture of the lower third of the tibia and fibula, followed by necrosis of the bone, it appeared that the limb was saved, but in so shortened and deformed a state as to partially deprive the plaintiff of its use. A physician was called by the defense to prove that the treatment had been skillful, and that similar cases of fracture, followed by necrosis of the bone, generally resulted in deformity. Questions on these points were excluded, but, on appeal, this ruling was reversed and a new trial granted. The grounds for this decision are thus stated: "The limb, evidently deformed, was shown to the jury, and the course of treatment to which it had been subjected was fully described by the witnesses. The inference sought to be drawn therefrom was that careless and unskillful treatment was the cause of the deformity. Hence it was vitally important for the defendants to satisfy the jury that such was not the case; that, on the contrary, the condition of the limb as exhibited to them was the result of the severe injury the plaintiff received followed as such injuries frequently are by necroses; that the limb was in as good condition as could ordinarily be expected in such a case when properly treated by a skillful surgeon. In determining whether a disease or an injury has been treated with proper care and skill, courts and juries must depend mainly on the testimony of experts, and considerable latitude must necessarily be given in the examination of such witnesses and in propounding hypothetical questions for their opinion. The testimony proposed was competent, and the witnesses should have been permitted to answer."

THE POWERS OF BOARDS OF HEALTH.—A recent suit in a New Jersey court brought up the question whether the health board of the city of Paterson had the right to control the thickness of the walls of new buildings, under a charter which gave the power to "regulate dwelling-houses." The Court held that this statute only gave the power to regulate houses in order that they might be free from disease. The word health was broad enough, it was said, to embrace the idea of safety as well as freedom from disease, but this was not the general meaning of the word, and was not the intent of the Legislature. The powers of the health board must therefore be confined to sanitary matters.

THE MICHIGAN STATE BOARD OF HEALTH.—We are indebted to the secretary of the board, Dr. Henry B. Baker, for an account of the annual meeting, held at Lansing, April 8th, which we summarize as follows: Reports having been read of the sanitary condition of various institutions, Dr. Vaughan read a paper, prepared by Dr. C. P. Pengra, going to show the fallacy of the idea that impure water was purified by

freezing. Ordinarily, the author had found fewer infusoria and bacteria in ice than in the water from which it had been formed, but he had found them in numbers sufficient to render the ice unfit for use.

The secretary presented a summary of the registration of medical practitioners under the new law, founded on reports from seventy-six of the eighty counties in the State. The number of graduates was 2,351; of those who had attended some college, but had not graduated, 208; of those who had not attended a college, 726. The "graduates" were from all classes of medical colleges, hospitals, medical societies, etc. About seventy-five "schools" of medicine were represented, including the "cureopathic" and the "Indian." In at least one instance it was reported that the sworn statement had been signed with a "mark," the practitioner being unable to write his name. One thousand five hundred and thirty-three practitioners were registered as "regular," 490 as "homoeopathic," 398 as "allopathic," and 366 as "eclectic." Eighty-seven per cent. of the "regulars," 74 per cent. of the "homoeopaths," 61 per cent. of the "allopathists," and 47 per cent. of the "eclectics" were graduates.

It was decided to publish a list of the health officers of the State, nearly fourteen hundred in number; to issue a new edition of a document on the prevention and restriction of scarlet fever; and to publish facts in regard to several outbreaks of trichinosis in Michigan. Resolutions were passed favoring the committal of the work of preventing the introduction of infectious diseases into the country to the National Board of Health.

DR. HANKS'S SYSTEM OF BOOK-KEEPING.—We attach no great value to the many forms of combined day-book and ledger designed to facilitate the work of keeping physicians' accounts, for, so far as we are familiar with them, they all have the peculiarity of calling for addition and subtraction in a horizontal line, instead of up and down, which process is conducive to inaccuracy and vexation. There are many medical men, however, who are willing to submit to this drawback, in order that they may keep a multitude of accounts within a small compass. To those who entertain this feeling we would commend Dr. H. T. Hanks's book, sold by Messrs. J. H. Vail & Co. Its special feature is that it facilitates a *coup d'œil* of any particular account, by means of certain letters that stand out in bold relief on the page, indicating the dates on which bills were rendered and on which a settlement was made.

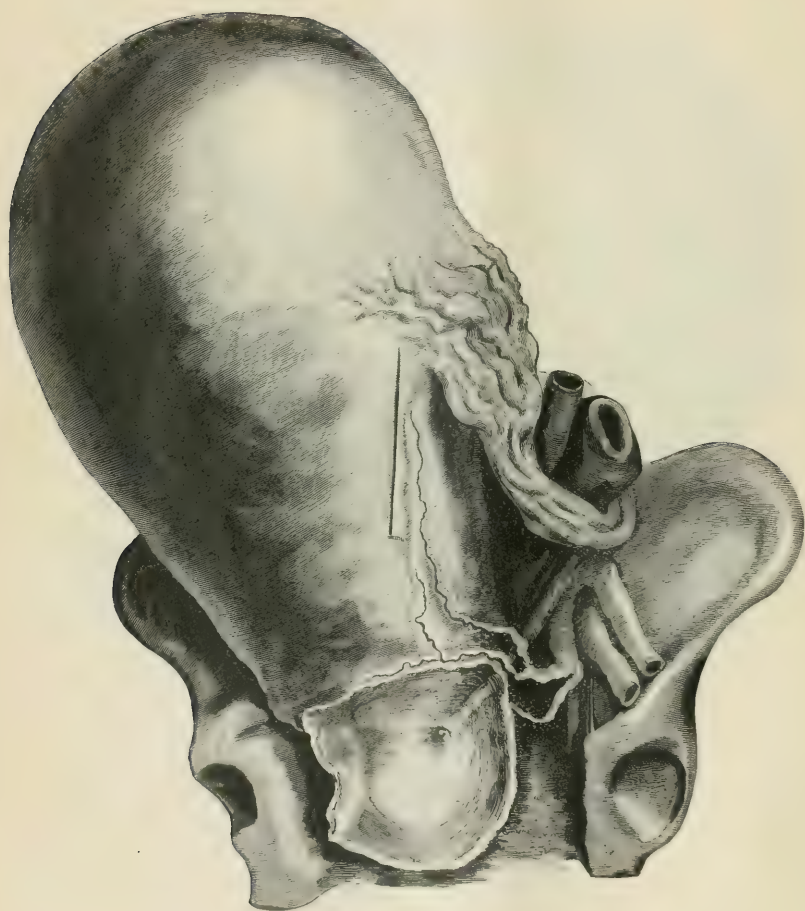
"MEDICAL" ALMANACS.—The perusal of one of the many so-called almanacs with which the country is annually flooded tends to disgust one, in view of the apparent ease with which commendatory certificates can be obtained from medical men and from those whose public positions ought to furnish a guarantee of sense somewhat above the average, in favor of almost any one of the multitude of worthless preparations which overrun the American market.

That a certain "plaster is more efficient than any other" is certified by one whose name is followed by Ph. D., F. C. S.; an M. D., L. R. C. S., has found the same plaster "peculiarly efficacious," as have thirteen other M. Ds., in all affections to which flesh is heir—from a common cold through the entire catalogue, including "liver complaints," "weak spine," etc. Another M. D., whose "specialty is diseases of women and children," takes "great pleasure in bearing witness to their remarkable curative power," and cites, as one of many instances, that of a lady who suffered from cold feet—"one of the symptoms of uterine congestion"—and had her feet permanently warmed by the application of a plaster to the sole of each foot.

Senators A. and B. believe them to be "the best plasters in the world," and look upon the manufacturer as a "public benefactor," while Senator C. and Assemblyman D. have had their valuable lives prolonged by the use of So-and-So's pills, which will cure "vertigo," "skin diseases" "malaria," and, when used in connection with the plaster, any ailment known except *mal à la poche*, which, strange though it may seem, considering their wonderful curative powers, their continued use is quite certain to produce.

And so we might go on, *ad nauseam*, although to that point the road is very short with the intelligent man who does not accept the trite saying, attributed to the "World's Great and Only," that the American people love to be humbugged.

Figure 3.



Original Communications.

REMARKS UPON

THE SURGICAL ANATOMY OF THE GRAVID UTERUS,

WITH PLATES.*

By WILLIAM M. POLK, M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

THE object of this paper is to call attention to certain differences between the anatomy of the pregnant uterus at term and that of the non-pregnant organ.

Permit me to say here that in writing of the pelvic inlet I use the terms *brim* and *linea terminalis* as expressive of different planes in the live subject, or subject with the soft tissues in place. The latter term signifies the same here as in all works upon anatomy. The former corresponds to the anterior faces of the *psaos-magnus* muscles upon the two sides, and differs in elevation from the "line" in proportion to the thickness of the muscles.

The line of approach to the gravid uterus, above the *brim*, is across the *iliac fossæ*, consequently a knowledge of the regional anatomy of this area is essential. With the exception of some differences in the position of the round ligaments, broad ligaments, and ovarian vessels, pregnancy effects no changes in the relations of the contents of these regions, consequently, with the exception noted, the descriptions of the *fossæ* contained in any good anatomical work will answer as an introduction to what we propose writing.

The lateral pelvic wall has many objects of interest to us; but the internal iliac vessels, sacral plexus, obturator vessels and nerves, and pudic vessels, are so little affected by pregnancy that we may leave them, as we leave the contents of the *iliac fossæ*, to be studied in the standard works on anatomy. Not so, however, with the ureters, ovarian and uterine arteries, round ligaments, and broad ligaments. These undergo changes of position not fully described, and it is to these changes we beg leave to call attention.

The plates here presented, no doubt, fully explain themselves; but a few words may not be out of place. It is necessary to bear in mind that the non-pregnant uterus is below the pelvic *brim*, while the gravid uterus at term may be said to be above. This certainly is the fact in many cases of contracted pelvis, and, as such are usually the ones demanding surgical interference, our concern is chiefly with them.

The Uterine Artery in the Non-gravid Uterus (see "New York Medical Journal," vol. xxxvi, p. 566, Fig. 2, from which I reproduce the following passage).—This vessel is a branch of the anterior trunk of the internal iliac. It is given off nearly on a level with the pectineal line, just in front of the *synchondrosis*. It passes obliquely downward and forward, crossing the upper anterior portion of the great sacro-sciatic foramen, and reaching the body of the ischium above the spine. Just above the spine it begins to leave the pelvic wall, turning inward but still pur-

suing its downward course till it reaches a point midway between the spine of the ischium and the tuberosity, measured from above downward, and midway between the pelvic wall and vagina, measured from side to side; then it begins to ascend, reaching the uterus about at the utero-vaginal junction. Passing up the side of the uterus, it finally anastomoses with the ovarian. It sends numerous branches to the uterus, one of the chief being the circular artery of the cervix. This is given off at the level of the internal os, anastomosing with its fellow of the opposite side. The vessel and its branches are quite tortuous, and that portion extending from the pelvic wall to the uterus is, with the tissues in which it lies imbedded, freely movable in all directions.

In all cases having the posterior attachment of the broad ligament, the course of the artery is within its folds, running first in the outer, then in the lower, and finally ending in the inner border. Where the anterior attachment obtains, the artery for a short portion of its course is behind the ligament. This is above the spine of the ischium.

It is rather difficult to fix points as guides to the artery, but in general it may be stated that the anterior and upper portion of the great sacro-sciatic foramen contains the first part of its course, the vessel here resting on the upper fibers of the *pyriformis* muscle. A finger's breadth above the ischial spine we have the point of departure from the pelvic wall. At the center of the lateral aspect of the utero-vaginal junction we have the point of first contact with this wall, its further course being directly up the central line of the lateral aspect of the uterus. Having located the point at which it leaves the pelvic wall, and that at which it reaches the utero-vaginal junction, we may get some idea of its course between the two by remembering that it follows the line of the lower attachment or base of the broad ligament. As said before, this portion is the most tortuous, and is as freely movable as the roof of the vagina; and, as shown in the drawing, the lowest point of its downward curve is about on a line with the external os, the uterus hanging naturally in the pelvis. In this portion of its course it passes directly over the ureter, resting upon but not closely attached to it.

The Uterine Artery in the Gravid Uterus at Term (see Fig. 3).—The vessel is enlarged, though relatively less so than the ovarian artery. It is less tortuous, and its attachment to the pelvic wall is loosened and in part separated, so that but a small portion near the origin remains in contact with the wall. This is readily understood when its attachment to the uterus is remembered. The effect of elevating the organ is, first, to raise all that portion of the vessel stretching from the pelvic wall to the uterus, for this runs in a loose area of connective tissue; and next to separate a good portion of it from the wall, so that, in cases of extreme contraction of the pelvic inlet with its resulting elevation of the entire uterus, we may expect to find the vessel running from its origin directly inward and upward to reach the lateral uterine wall.

In the normal pelvis, with the gravid uterus occupying the usual position, its course, from origin to distribution, is more direct and at a much higher level than before pregnancy; but it should not be lost sight of that this level is raised and depressed along with corresponding movements of the uterus.

The level of the uterus varying even in normal cases, an exact statement of the relation of the level of the uterine

* For the explanations of the plates, see the closing paragraphs.

artery to any one of the pelvic planes is impossible, and scarcely desirable. It is, perhaps, sufficient to remember that the higher the uterus the higher is the vessel.

The relations of the vessel to the ureter are practically the same as in the non-pregnant state, resting upon and loosely attached to it, as they cross at a point about midway between the uterus and pelvic wall. Owing to the ascent of the broad ligament and consequent obliteration of its outer border, the relations between the vessel and this border are lost, but it maintains a close relation with the base-line or inferior border passing beneath it, to reach finally within its folds the lateral border of the uterus.

In approaching the lateral aspect of the lower segment of the uterus above the pelvic brim, the vessel may be distinguished as it hangs loosely in the wide-meshed area of connective tissue, filling the interval between the cervix and the lateral pelvic wall. Finding it at its junction with the uterus just above the center of the lateral aspect of the cervico-vaginal junction, we can easily trace it to its origin.

The Ovarian Artery in the Non-gravid Uterus (see "New York Medical Journal," vol. xxxvi, p. 566, Fig. 2), after descending across the posterior and inner angle of the iliac fossa, winding beneath the inner extremity of the sigmoid flexure on the left side and along the inner border of the cæcum on the right, crosses the pelvic brim at or in front of the bifurcation of the common iliac artery, sometimes as much as an inch to the front, and, accompanying the infundibulo-pelvic ligament in the upper border of the broad ligament, reaches the lower surface of the Fallopian tube. Passing close to the ovary, it follows the course of the tube to reach the cornu of the uterus, remaining thus after crossing the pelvic brim in the upper border of the broad ligament, its general direction within the pelvis being horizontal, but subject to the position of the fundus uteri.

The Ovarian Artery in the Gravid Uterus at Term (see Figs. 1, 2, and 3) is greatly enlarged. Descending across the posterior and inner angle of the iliac fossa as before, it approaches the pelvic brim at the bifurcation of the common iliac; thence it runs almost directly upward and slightly forward to reach the greatly elevated cornu of the uterus.

In this course it accompanies the infundibulo-pelvic ligament and tube, passing close to the ovary as in the non-pregnant condition, but the relation of the ovarian vessels to the tube and ovary has undergone one striking alteration. Before pregnancy the tube and ovary are so much larger than the caliber of the ovarian vessels that these vessels are overshadowed, but in pregnancy they are so much enlarged as to rather overshadow the tube and ovary.

Owing to the alterations in the broad ligament to be noted, it now runs in the posterior border of the triangular expansion of what was the upper border of that ligament.

The relations of the first portion of the rectum to this vessel are important in all operations upon the pregnant uterus, made from the direction of the left iliac fossa. They will be mentioned in a separate statement.

The Round Ligament in the Non-gravid Uterus (see "New York Medical Journal," vol. xxxvi, p. 566, Fig. 2) leaves the organ at the cornu, and, passing along the anterior face of the broad ligament just below the level of the

Fallopian tube and ovarian vessels, reaches the pelvic wall about at the linea terminalis and behind the pectineal eminence. Passing thence along the side of the external iliac vessels, it crosses first the origin of the deep epigastric vessels, then Poupart's ligament, and ascends toward the internal inguinal ring, through which it goes to reach its insertion.

In this course within the abdomen it describes three curves—one in the broad ligament, one as it crosses the brim, and one as it crosses Poupart's ligament to reach the internal ring. All this is materially changed in pregnancy.

The Round Ligament in Pregnancy (see Figs. 1 and 2) is greatly enlarged and much elongated. Leaving the elevated cornu where it has close relations with the ovarian vessels, it descends in the anterior fold of the triangular expansion of the broad ligament to reach the internal ring. No part of it dips below the pelvic brim. If the uterus be low in the pelvis, the ligament will rest upon the brim and the iliac vessels before entering the ring; but if the organ be well up, it is stretched to such an extent that its course may be that of a straight line from the cornu to the ring, no part of it coming in contact with the brim or the iliac vessels.

The result of this stretching of the ligament is to raise the peritonæum from the face of the inner, anterior angle of the iliac fossa, a matter worth remembering in operating with a view of reaching the lateral vaginal wall above the pelvic brim.

The Ureters with the Non-gravid Uterus (see "New York Medical Journal," vol. xxxvi, pp. 566 and 568, Figs. 2 and 3, from which the following description is taken):

From the kidneys to the inlet of the pelvis their course is vertical. Just above the posterior end of the crest of the ilium their line of descent is intersected at an acute angle by that of the ovarian vessels. On the right side it passes inside of the attachment of the cæcum and vermiform appendix. On the left it passes beneath the attachment of the sigmoid flexure. They strike the inlet of the pelvis near the bifurcation of the common iliac artery, just in front of it on the right, just behind it on the left. Where the broad ligament has the anterior attachment, they hug the pelvic wall till they reach the lower part of this attachment just above the spine of the ischium. In that portion of its course, on the right side it lies just behind the uterine artery, passing just in front of the internal iliac artery. On the left it crosses the internal iliac obliquely from above downward and forward.

Although behind the uterine artery, as on the right side, it is twice the distance from it till the broad ligament is reached, when the relations become much as they are on the right side. On both sides their line cuts the upper and anterior portion of the great sacro-sciatic foramen, the left farther back than the right. Starting now from the spines of the ischia, we find the left a little closer to the spine than the right; both are embraced in the folds of the base of the broad ligament. Curving inward, downward, and forward, they pass obliquely beneath the uterine artery, emerging somewhat nearer to the utero-vaginal junction than to the pelvic wall, touching the antero-lateral vaginal wall in their descent just below the level of the external os, finally ending in the base of the bladder, about an inch below and to the front of the anterior cervical lip.

In this oblique course across the pelvic floor they are from three fourths of an inch to an inch from the utero-vaginal junction.

tion, first outside, then below and in front, preserving this distance because of the downward course.

In cases having the posterior attachment of the broad ligament, the relations of the ureter after passing the ischial spines are the same as those just given; from the pelvic inlet to the spines they are somewhat different.

They are in the folds of the broad ligament the entire distance; consequently they do not hug the pelvic wall, but gradually leave it, passing about half an inch to the inner side and a little above the spines of the ischia. In this course their relations with the uterine artery are less intimate than in cases of the anterior attachment. This relation more nearly resembles that which we have in pregnancy.

In one case it was found that the left ureter lay in the outer two thirds of the left utero-sacral ligament, in this instance the ligaments having an attachment a good deal to the left of the central line of the sacrum.

The Ureters with the Gravid Uterus at Term (see Fig. 3).—The changes in the position of these tubes, consequent upon pregnancy, have been stated in a paper read before the Obstetrical Society and published in the "New York Medical Journal," May, 1882. Subsequent investigation has in no way altered the general conclusions then reached—namely, that at term the ureters are detached from the pelvic wall and raised above the level occupied prior to pregnancy. The extent of this ascent varies with the ascent of the uterus, consequently is dependent upon the capaciousness of the pelvis in no small degree. When we reflect upon the connection of the posterior and lower surfaces of the bladder with the anterior vaginal wall, as well as the intimate relation existing between that canal and the ureters, and remember that the vagina is drawn up and elongated by the traction of the ascending pregnant uterus, it is evident that there must be some ascent of the postero-inferior vesical wall and corresponding elevation of the ureters. The general upward movement of the broad ligaments and elevation of the peritonæum in the para-vesical fossæ and lateral fossæ of Douglas would serve to account for the change of position in that portion of the tubes behind the vagina, thus completing the reasons for the general alteration of position maintained. In connection with this subject it is well to bear in mind the fact, pointed out by Braun, that during parturition a considerable portion of the bladder is drawn up above the pubes, causing, no doubt, a farther ascent of these tubes, so that during labor it is fair to assume that there is a time (the termination of the first stage of labor) when what we may designate as the pelvic portion of the ureter will be raised to the level of the pelvic brim throughout most if not all of its course.

We find, however, the following to be the position of the ureters at term in a pelvis of normal dimensions:

They cross the pelvic brim at the bifurcation of the common iliac artery, the left just behind, the right just in front of that point; they wind around the inner border of the psoas-magnus muscles, across the vessels, to strike the linea terminalis about the synchondrosis. In this course they accompany the internal iliac vessels, the right ureter being in front of these vessels, the left crossing them obliquely from behind. Reaching the linea terminalis, they leave the pelvic wall, pass beneath the broad ligament, and take a

course downward, forward, and somewhat inward, passing about midway between the cervico-vaginal junction and the pelvic wall, but approach very closely the antero-lateral vaginal wall, as they turn more decidedly inward on a lower plane to strike the base of the bladder three quarters of an inch below the cervico-vaginal junction, ending finally in the bladder at a point two inches behind the spine of the pubes (the subject on the back). A line drawn from the bifurcation of the common iliac artery to the spine of the pubes corresponds in the main to the course of the ureters. From what has already been said, it is obvious that the level of the ureters at term can not be fixed absolutely, but I believe my former statement expresses as nearly as may be the average for all normal cases—viz., with the patient on the back and assuming the anterior face of the psoas muscles as the highest level of the lateral borders of the brim, the ureters, at the bifurcation of the common iliac arteries, will be found half an inch below the brim, at the extremities of the transverse diameter one inch below, and opposite the spine of the pubes two inches below the spine, or, more properly speaking, two inches behind it.*

The Broad Ligaments with the Non-gravid Uterus (see "New York Medical Journal," vol. xxxvi, p. 566, Fig. 2).—These folds, extending from the sides of the uterus to the pelvic wall, upon either side, have four borders: The inner, running from the cornua of the uterus to the level of the internal os; the lower, from the internal os to the body of the ischium, just in front of the spine of the ischium; the outer, from this spot on the ischium up the pelvic wall nearly to the brim. Sometimes the direction of this border is along the posterior half of the ischium; in other cases it runs farther back, across the upper part of the

* In an article upon "Gastro-Elytrotomy," published in the "American Journal of Obstetrics" for January, 1883, Dr. Garrigues takes exception to some of these measurements, and, in support of his exceptions, cites a specimen presented by me to the Obstetrical Society. At the time the specimen was presented, and as shown to Dr. Garrigues by me later, and as he states, it was not in condition to demonstrate the relation of the anterior extremity of the ureters to the pubic spines. All the tissues upon the outside of the pelvis had been removed, including the layers of deep and superficial fasciæ closing in the inferior strait. Consequently the vagina and rectum, and with them the posterior wall and base of the bladder, were thrown out of position, making it impossible to estimate properly the distance from the pubic spine to the vesical end of the ureter. As said, I believe two inches expresses the average for all cases, but I can understand that in this, as in the other measurements, there may be variations. The doctor's statement as to the course of the ureter in that specimen, from its crossing of the brim to the line of the transverse diameter, is in accord with my observation, but, as the specimen had been in alcohol some time, with the entire weight of the uterus resting squarely within the upper part of the pelvic canal, I was disposed to consider this position as dependent upon the abnormally applied central pressure. We found this portion of the left ureter closely hugging the inner margin of the anterior face of the psoas-magnus muscle, as far forward as the extremity of the transverse diameter. The comment upon the location of the ureter at the bifurcation of the common iliac no doubt grows out of a misinterpretation of my use of the term brim. As said, I use it to designate the level corresponding to the anterior face of the psoas magnus—a line which is above that of the iliac vessels. As regards my use of the common iliac bifurcation as a point from which to locate the ureter, I chose it in preference to the synchondrosis, as of the two it is the more easily found, and they correspond in position very nearly.

great sacro-sciatic foramen to the sacro-iliac synchondrosis. The upper border is free, extending from just below the pelvic brim to the uterine cornua. The relation of the Fallopian tubes, ovarian vessels, ovaries, uterine vessels, ureters,

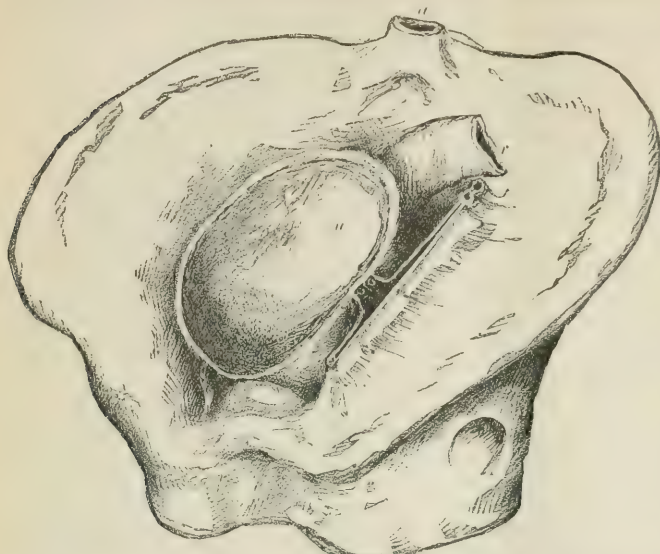


FIG. 4.—A DIAGRAMMATIC SECTION OF THE BROAD LIGAMENT AND THE UTERUS JUST ABOVE THE BRIM OF THE PELVIS. *a*, the aorta; *r*, the rectum; *u*, the uterus.

and round ligaments to this border has already been mentioned in speaking of these structures. Our only concern now is with the relation of these ligaments to the uterus and pelvic cavity. In the non-pregnant condition, then, the whole of these structures is below the level of the pelvic brim, within the pelvic cavity.

The Broad Ligaments with the Gravid Uterus at Term (see Figs. 1, 2, and 4).—The ascent of the uterus is such as to lift these structures out of the cavity of the true pelvis, and their outline is so altered that they become triangular instead of quadrangular. The inner border, much elongated, still reaches from the cornua to the level of the internal os. Some lessening of the intimacy of the attachment of its layers is noticed; this is specially evident in the anterior layer as it passes over the lower segment of the uterine body.

The superior border, with all that portion of the peritonæum stretching between the ovarian vessels and round ligaments, is spread out at the sides of the uterus in the shape of an acute-angled triangle, with the base at the brim and the apex at the cornua; this conformation is the result of the tension exercised by the ligaments and vessels as the uterus ascends.

The inferior border or base-line, shortened by the expansion of the uterus, runs from the internal os to about the linea terminalis, thus occupying a level corresponding in the main to that formerly held by the superior border. From this it will appear that the outer border is virtually

obliterated. This change is the result of the traction made upon the folds of the broad ligaments as the uterus ascends. The lines of traction run from the lateral uterine wall to the inferior and outer borders, the point of greatest tension being at all times the intersection of these two. As the inferior border ascends, the adjacent peritonæum keeps pace, the result being a constant encroachment from below upward upon the outer, until finally the greater part if not the whole of it disappears to take its place upon the inner face of the triangular expansion of what was formerly the superior border. By lateral growth the uterus forces itself between the anterior and posterior layers of the broad ligaments, thus encroaching upon their horizontal measurement. Leaving the sides of the uterus in close apposition, they pass out to reach and form the inner face of the triangularly expanded superior border; there they separate, the one to pass forward around the round ligament, the other to pass backward around the ovarian vessels, both to become continuous with the peritonæum, forming the outer face of the triangular expansion described.

The effect of the tension upon the ovarian vessels and of their alteration of position is to throw the rectum somewhat back of the line along which it usually crosses the brim to unite with the sig-

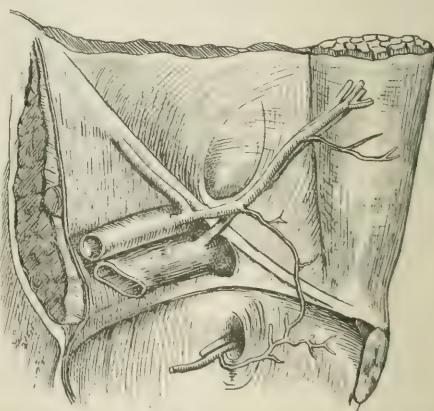


FIG. 5.—After Gray, showing the inner face of the regions above and below Poupart's ligament.

moid flexure. The ascent of the lateral pouches of Douglas, and consequent ascent of the utero-sacral ligaments, serves to throw its upper portion farther back toward the central sacral line, so that at term the intestine as a whole

runs nearer this line than before pregnancy. If we seize a gravid uterus at term and make traction upward, we lift the peritoneum along the face of the psoas muscles from the sacro-iliac synchondrosis to Poupart's ligament.

If we make an incision parallel to Poupart's ligament about the level of the internal inguinal ring and push the gravid uterus well over to the opposite side, we may pass from the ring to the interior of the true pelvis without touching the peritoneum, our line of approach being beneath that of the round ligament. The effect of pregnancy is, in fact, to loosen, and even diminish, the area of peritoneal attachment in the iliac fossæ, so that separation, as has been repeatedly pointed out, is a matter of ease. Before closing I must explain the reproduction of Gray's well-known plate. It is offered in connection with the four we present in order to complete, as far as we can, the illustration of this region.

EXPLANATION OF FIGS. 1, 2, AND 3.

FIG. 1.—A front view of the uterus at term, showing the broad ligaments, the round ligaments running along the anterior margin, and the ovarian vessels running along the posterior margin.

FIG. 2.—An antero-lateral view of the gravid uterus from the left side, showing the broad ligament extended.

FIG. 3. The gravid uterus at term.—The pelvic bones in front of the pectineal eminence have been removed, and the broad and round ligaments have been cut away, showing the external and internal iliac vessels, the uterine artery and its branches, the ovarian vessels, and the obturator nerve. The rectum is turned up against the aorta. The posterior wall and base of the bladder cover the anterior cervical and vaginal walls. The ureter is shown from the bifurcation of the common iliac to its entrance into the bladder. Because of the separation of the bladder from the pelvic wall, the ureter has followed the portion attached to the vagina and cervix.

THE FUNDAMENTAL PRINCIPLES OF MECHANICO-THERAPY IN HIP DISEASE.

By MILTON JOSIAH ROBERTS, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND; PROFESSOR OF ORTHOPÆDIC SURGERY IN THE UNIVERSITY OF VERMONT, ETC.

(Continued from page 294.)

BEFORE making further investigations, however, with the intention of strengthening our present remedial attitude, let us first see whither our compass now points, and in the next place investigate the conditions of the craft in which we are about to voyage.

THERAPEUTIC INTERPRETATION OF CLINICAL PHENOMENA.

The therapeutic ideas, then, which our critical clinical studies have served to inspire and to indicate the desirability of simultaneously executing, may be summarized as follows:

1. For the maintenance of the comfort of the patient; the thorough artificial protection of the diseased area.

2. For the immediate nearest possible approximation to the condition of healthy local nutrition and the final perfect restoration of the functions of the diseased hip joint; the admission of articular motion within certain limits, the nature and extent of which are to be at all times placed under the surgeon's control.

3. For the continued subduction of reflex muscular spasm and the prevention of intra-articular pressure and friction; the constant exercise of firm tensile circum-femoral and circum-pelvic compression and elastic linear traction.

4. For the maintenance of the general bodily nutrition at the highest possible standard; the non-interference with the performance of the functions of healthy joints.

5. For the purposes of locomotion and the sustentation of superimposed weight; the furnishing of sufficient artificial support to practically counterbalance the loss in supporting qualities on the part of the affected member.

6. For the avoidance of unnecessary incumbrance to the patient; the maximum degree of lightness of apparatus and ease of portability.

Though our training has been such as not to beget fright when new truths are placed before us, we are not yet prepared to commit ourselves to these views, however plausible they may seem, for only a single line of evidence has been presented. One must needs be careful that his scientific beliefs be not formed too hastily or upon insufficient data. In medicine, as in other departments of knowledge, beliefs once formed, though afterward demonstrated to be erroneous, are hard to get rid of. If our therapeutic inferences be correct, they will lose nothing from an examination of other lines of evidence. Rather will they be strengthened and rendered more coherent. If they be false, the more evidence we examine the more difficult will it be to reconcile them with each other and with the freshly adduced matter. Hence our business, both for our own sake and the sake of medical science, is not now to attempt a practical test of these therapeutic ideas in the treatment of hip-diseased patients, but to adduce further facts, and note if thereby they be strengthened or weakened.

What would be thought of the commander of a transatlantic steamship, though her past history had been entirely free from accidents, who, with a cargo of precious human lives, would set sail for a foreign port without being again assured that, though the ship and her engines had seen much service, a critical examination into their condition by competent parties gave emphatic promise of continued safety? Placing ourselves in this attitude to the question in hand, we are bound under heavy penalty, before proceeding farther, to inquire into the exact condition of the parts with which we are dealing; or, in other words, into the pathology of hip disease; not for the purpose of therapeutic inspiration, but for the purpose of therapeutic confirmation.

THE PATHOLOGY OF HIP DISEASE.

In adverting briefly to the pathology of hip disease, I am happy to avail myself of the *ascertained facts* bearing upon this point which have been laboriously collated by my friend Dr. A. B. Judson, and presented to the profession in a very instructive paper read before the New York Academy

of Medicine.* Though these data were evidently collected under the impression that they supported the plan of treatment which I have designated in this paper as that of rigid support and rigid traction, they constitute, in my judgment, a most eloquent argument in confirmation of the feasibility of permitting articular motion at the hip, under the restrictions of efficient resilient support, firm tensile circumferential compression, and elastic linear traction.

The principal pathological evidence adduced in the paper referred to, and based upon actual post-mortem examinations, may be summarized in the following propositions:

1. The first morbid change in hip disease does not take place in either the femoral or acetabular articular surfaces.

2. The inflammation begins, as a rule, in the medullary tissue of the head of the femur and proceeds from within outward, involving secondarily the articular surfaces and the soft parts of the joint.

3. Abscess may develop prior to the involvement of the articular surface of either the femoral head or acetabulum.

4. Among the early changes subsequently found in the articular cartilages, and before their normal smoothness has disappeared, are their undue thinness in some places and deficient elasticity.

5. No specimens have been described in the literature of the subject which disclose erosion or ulceration on the surface of the bone or cartilage coincidently with a sound condition of the cancellated tissue.

6. The neck of the femur is almost invariably deeply ulcerated before the articular cartilage covering the head of the femur is involved by the disease.

7. The ligamentum teres is usually destroyed before serious erosion of the articular surface takes place.

8. When, as happens in the later stages of the disease, the articular cartilage begins to give way, the lesions found in it are insignificant in their extent and gravity compared with those of the underlying tissue.

9. Before ulceration or erosion of the articular surface takes place, there are clear evidences of the effects of pressure in the altered shape of the head and neck of the femur.†

Inferential Therapeutic Confirmation derived from Pathological Data.—It thus appears, from the pathological facts which we have had placed at our disposal, that, as a rule, neither the articular surfaces nor any of the soft parts of the joint (synovial membrane, capsule, etc.) are invaded by the disease until its later stages have been reached. In short, excluding the limited inflammatory focus in the head of the femur, the tissues entering into the formation of the affected articulation present no gross variations from the condition of health. Why, then, providing the comfort of the patient can be secured and his expeditious recovery insured, have we occasion, during the treatment, to deprive these healthy soft structures and articular surfaces of their function?

The changes in the shape of the articular contour of the head of the femur are readily explained on the theory that

there has been a continuance of its use for the purposes of support after its normal supporting qualities have been interfered with. This change manifestly results from the carious disintegration of its central portion, leaving, as it were, a shell of unaffected bony tissue with its incrusting cartilage, the free, smooth, rotund surface of which becomes depressed or flattened in places by undue pressure upon it. If, then, the supporting capacity of the diseased member be artificially re-enforced to the extent it has been interfered with by the inflammatory process, it is reasonable to infer that a change in the articular contour would not take place; for the superimposed pressure upon the weakened femoral head, or head and neck, could not exceed its supporting power, however slight that might be. Granting that it is possible to furnish such artificial support, and bearing in mind that our pathological studies have revealed a carious interior of the femoral head, coincidently with a healthy condition of the articular surfaces as well as of all the soft structures of the joint, is it not a rational inference that, under the conditions determined upon in our clinical examination of the patient, motion of the joint can take place without damage to the diseased area? If so, the pathology of hip disease would seem to confirm in every particular the feasibility, at least in the early stages of the majority of examples of the malady, of attempting a practical enforcement of the remedial measures deduced from a study of its bedside phenomena. Tarrying to inquire into the pathology of hip disease, have we not encountered confirmatory evidence of the value of the remedial ideas gained from previous studies? Assured, then, as we are, of the harmony between the therapeutic conceptions derived from clinical sources and the exact pathological conditions with which we are dealing, the next step in logical order is the determination of the most expedient and scientific means of executing these ideas. That we may avail ourselves of the pertinent inferences to be made in this regard from a knowledge of the normal conditions, let us go to physiology, the fountain-head, for therapeutic inspiration, and study her methods.

Just here I wish to say a word in self-defense; for, as hinted in the last sentence, I am about to invite your attention to lines of thought and observation which I am fully persuaded will be ridiculed by some as foreign to my subject, or at least having so little bearing upon it as to be possessed of no interest to the practical surgeon. To those who are familiar with the *method of discovery*, it is known that advance in the physical sciences as well as in medical science has achieved its most brilliant successes in consequence of investigations outside the narrow limitations of the concrete phenomena which inspired research. If, then, we are ever to be freed from the baffling maze of conflicting and contradictory opinions and practices which intrall our understanding of the therapeutics of hip and other allied articular diseases, it is probable that much will be gained by a study of other avenues than the clinical and the pathological.

As already pointed out, the study of physiology bids fair to yield important results. In making a casual survey of the physiological field, however, the extreme complexity of the problems to be studied and solved is at once mani-

* "Some Practical Inferences from the Pathology of Hip Disease," Vide the "New York Medical Journal," July, 1882.

† *Loc. cit.*, Figs. 1, 3, 6.

fest—and so strikingly manifest, I confess, that, were it not for my enthusiasm for the subject, I would not venture to cope with it. The questions involved are so complex that, in order to make any headway at all in their solution, it will be necessary to separate them into their individual parts, and to consider these separately; in short, to adopt the analytical method.

(To be continued.)

THE SULPHURETED-HYDROGEN HEADACHE.

By BENJAMIN LEE, M. D., Ph. D.,
PHILADELPHIA.

THE issue of this journal for November 17, 1883, contained three interesting articles on migraine, by as many writers, each of whom always commands a respectful hearing. These articles are interesting, taken together, as showing the advance which has been made of late years in arriving at certain of the essential conditions in hemicrania—for a reason, which I shall presently assign, it can not always be called sick headache—and the consequent increased precision in the use of remedies for its relief; but not less so as indicating the different standpoints from which the same conditions are regarded by different observers, and the resultant differences in therapeutics.

The first writer, Professor Hammond, regards the affection as purely vascular, differentiating, with his accustomed clearness, in the two forms, angio-spastic and angio-paralytic, in the former of which the arteries and arterioles of the head are strongly contracted, thus inducing a condition of anemia, while in the latter they are as strongly dilated, producing hyperæmia.

The author of the second article, Dr. Allan McLane Hamilton, considers the disease to be as much vascular as nervous, and recognizes also the distinction between the anæmic and the congestive forms; while the third, Dr. Alfred L. Carroll, looks upon it as a neuralgia, though he refers to the fact that vaso-motor spasm and angio-paralysis have been assigned as among its causes. Dr. Hammond has observed the two forms alternating, one attack being of the spastic and the next of the paralytic type, and even, in rare cases, both co-existing on opposite sides, while Dr. Hamilton appears to think that there may be different stages, exhibiting the two forms in the same attack. As regards therapeutics, Dr. Hammond, singularly enough, finds his two most potent remedies equally efficient in both forms—galvanism of the great sympathetic from the neck to the solar plexus, and heroic doses of bromide of sodium. With regard to the latter, he explains that the bromide not only relax vaso-motor spasms, but give tone to vessels the coats of which are relaxed. This double-edged sword which will cut short a paroxysm, of whichever kind, with equal certainty, is truly a valuable weapon, but it does seem as if the point would bear a little more elucidation.

Dr. Hamilton finds nothing so efficacious in the paroxysm as full doses of chloride of ammonium—seventy grains every hour, well diluted in Vichy water—but in the “congestive stage” gives bromide of ammonium largely. Dr.

Carroll considers that its causes are so various that no fixed rules can be laid down for its management. All three recognize the value of nitro-glycerin in the anæmic form, the first using it both during the paroxysm and in the interval, the second only in the interval. In the majority of cases Dr. Carroll has more good results from the long-continued use of cannabis indica in small doses than from any other remedy.

I confess that, to my mind, the concluding sentence of Dr. Hammond's careful paper, which seems to have been added as an after-thought, contains a truth of great significance, and one which, in these days of neuro-pathology run mad, we are too apt to overlook. The pathology of the disease in what may be called its terminal relations is admirably traced. No one can hesitate to accept it. But what as to its original cause? The nerves are, on the whole, very-well-behaved members of society. They do not get on “strikes” or raise disturbances without good cause. Like a well-ordered police force, they perform their daily round of duty quietly and unobtrusively until some danger threatens the safety of the body-politic. Then they sound the alarm, telegraph to headquarters for re-enforcements, and insist on having their complaints attended to. Any plan of neuro-therapeutics which treats them as though they were the original offenders in functional disorders is defective. It does not go back to the *fons et origo*. We can not fail to recognize in Dr. Hammond's photographic portraiture of these two allied affections a profound disturbance of a nerve-center, making itself felt in the fibrils which supply the coats of the vessels. But the nerve-center is only replying to signals of distress which it has received from other nerve-fibrils, in distant parts of the body often. It is not getting up this excitement for its own gratification. Hence he says, truly and wisely: “In both forms the stomach and bowels must be kept in good condition. Sometimes attacks of either kind are caused by *undigested food in the stomach or intestines*, and an emetic or a purgative aborts it at once.”

The old name of sick headache, connecting one form of the affection (the spastic) with failure of stomach-digestion and consequent nausea and vomiting, was not a bad one, and, while I am quite willing to admit an immense variety of causes—such as fatigue, mental tension, exposure to cold, eye-strain, uterine irritation, etc.—still this almost invariably comes in as an intervening cause, if it be not the primary one. In connection with the question of the presence of undigested food in the *primæ viæ* as a cause, either primary or secondary, I wish to propose a theory which I think I have substantiated by observation, and in regard to the plausibility of which I should be glad to have the results of the experience of other practitioners. It is this: In the angio-spastic form of migraine we have evidences of failure of *gastric* digestion in early and intense nausea and final vomiting of undigested food. In the angio-paralytic form of migraine we have evidences of failures of *intestinal* digestion, in constipation or diarrhœa with flatulence, and the discharge of sulphureted hydrogen usually in large quantities by the rectum, very rarely by the mouth.

In the former, nausea almost invariably precedes the pain, and vomiting almost invariably occurs. In the latter,

nausea occurs only as a result of long-continued, intense pain, and vomiting scarcely ever occurs. When it does, the matter vomited consists of glairy mucus only. So far from the stomach being at fault, the sufferer will often eat quite heartily, and will find a temporary relief from pain as the result of a full meal.

I take the etiology of these cases to be a poisoning of the nerve-fibrils in the mucous coat of the intestinal canal, usually of the lower bowel, by the gases of decomposition arising from the fermentation of food which the stomach has digested and passed on, but which the liver or pancreas, or both, have failed to do their full duty by, and have thus left at the mercy of the ordinary forces of nature. Sulphureted hydrogen I choose as the type of these poisonous gases, as it is very constantly present and makes its presence so unmistakably known. In one striking case which fell under my notice a gentleman suffering from a mild attack of summer diarrhoea was advised to make his breakfast principally upon soft-boiled eggs. In about two hours after the meal he began to feel symptoms of hemicrania. The pain developed rapidly, becoming very intense, until he had a profuse semi-fluid stool, accompanied by copious discharges of sulphureted hydrogen. The pain vanished as if by magic, to return in the course of an hour and increase in intensity until again relieved in the same way. This process was repeated four times, and, after the fourth fetid evacuation, the *matrices morbi* seemed to have been discharged entirely, and the pain disappeared. The analogy between the temporary relief afforded by vomiting in the angio-spastic form of the disease and that given by the evacuation of the rectum in this case can not fail to be observed.

As an additional point of distinction between the two forms, I am inclined to believe that in the angio-spastic form the pain is more apt to begin in the temporal artery or some of its branches, and in the angio-paralytic form in the occipital artery. The history of an attack of the latter is about as follows: The sufferer is first made aware of its approach by a slight sense of mental dullness and confusion of thought, with more or less fullness about the head, sometimes preceded by a feeling of exhilaration. This gradually assumes the character of a dull, diffused aching throughout the entire head, which may continue for some hours, rendering him more and more disinclined for work, especially brain-work, until finally he begins to be conscious of a concentration of the pain at the point where one of the occipital arteries emerges from the skull. If pressure be made at this point, it will be found that the artery is pulsating more strongly than its fellow and is sensitive to the touch. The pain and sense of throbbing now rapidly intensify, following the ramifications of the artery forward along the side of the head. In some cases the temporal and supra-orbital become involved, and the ball of the eye is the seat of agonizing pain, but very often these vessels escape altogether. About the time that the pain reaches its greatest intensity, discharges of sulphureted hydrogen or other fetid gas will probably begin to take place from the rectum, and will continue at intervals until the paroxysm passes off. The next evacuation will usually vary considerably from the healthy

standard, being often dark-colored, of a sticky, pasty consistence, and very fetid. Lying down greatly intensifies the occipital pain and throbbing, so that the patient will often decline to go to bed. The increased heat and general turgescence of the affected side of the head are very noticeable. The duration of the attack is about twelve hours, and it usually passes off during a sound sleep, into which the patient falls as soon as the pain begins to abate. As already said, vomiting rarely occurs, and very often there is not a trace of nausea from beginning to end.

As to the treatment, first, during the paroxysm: Emetics are, of course, of no use, as there is no undigested food in the stomach. Purgatives are too tedious in their action to be relied on to carry off the fermenting matter, and those which act the most promptly, the sulphates, are objectionable from the fact that they at once decompose and disengage sulphureted hydrogen, thus adding fuel to the flame. If the view which I have suggested be the true one, we can accomplish something by administering remedies which will check decomposition and fermentation and correct putrescence. Carbolic acid, creasote, and salicylic acid, and the salicylates, suggest themselves. I give the preference to salicylic acid, finding it much more effective than its salts. Fifteen grains, taken when the first sense of fullness and compression about the head is felt, will often ward off a paroxysm. This dose may be repeated in half an hour, and again in an hour if the first is not successful. I can not indorse Professor Hammond's suggestion of the application of cold to the nape of the neck. Our object is to stimulate the vaso-motors, and that we can accomplish more effectually by the application of heat. The hot-water bag, applied to the posterior cervical region and between the shoulders, often affords great relief. The ice-bag is indicated in the angio-spastic form, if the patient is not too chilly to be willing to bear it. Compression of the carotid on the affected side undoubtedly gives relief temporarily, but it can not be borne long enough to produce any permanent alteration in the tone of the arterial walls. Compression of the occipital by means of a handkerchief bound tightly around the head is an old domestic resource which is more effective in the long run. When the paroxysm is thoroughly established and the occipital is beating like a trip-hammer, the diseased action has become so localized in the artery that it is not possible to interrupt it. Nothing is left but to put the sufferer, if possible, into the sweet oblivion of sleep, from which we may hope he will awake free from pain.

Morphine is objectionable from its inhibitory action on the secretion of intestinal juices, and especially on the liver. The bromides are slow in their action. I prefer to make every arrangement for the patient to sleep and then give a full dose of chloral. The galvanic current as recommended by Dr. Hammond I have not tried. The faradaic, I have thought, aggravated the paroxysm. While not denying the value of digitalis or cannabis in the interval, I believe that they are inferior in value to a careful observance of hygienic and dietetic precautions and the use of massage. The value of the bile as an intestinal antiseptic is universally admitted. It should be our aim to promote its secretion in

the cases—and I believe they are frequent—in which we have reason to think it deficient. The constant use of cholagogues to stir up a liver which is constitutionally inactive is, however, to be deprecated. Abdominal massage, promoting the activity of the portal circulation and peristaltic action, with vibrations over the liver, is more potent and more permanently beneficial than blue pill, without the injurious effects of the latter. Nitro-muriatic acid, both internally and as an hepatic epithem, I have thought useful. A trial of pancreatin may also be made. But our chief care must be to proscribē those articles of diet which are prone to putrescence, and which, in decomposing, set free sulphureted hydrogen. Eggs naturally head the list. Next follow fish and shell-fish, including oysters. Then the coarse, succulent vegetables—cabbage, turnips, carrots, parsnips, etc. All meats may be permitted except veal. The use of tea and coffee can only be regulated by the experience of the patient. As a rule, however, they are injurious in the interval, but useful, taken very strong, at the outset of the attack, as a prophylactic.

The daily life should be equable. All causes which are known to check digestion and the secretion of the digestive fluids should be avoided. Among these may be noticed intense excitement, excessive exercise, protracted brain-work, over-use of the eyes at night, loss of sleep, and long exposure to intense cold.

THE PATHOLOGY AND RADICAL CURE OF HAY FEVER, OR HAY ASTHMA.*

BY JOHN O. ROE, M. D., ROCHESTER, N. Y.

FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, MEMBER OF THE
MEDICAL SOCIETY OF THE STATE OF NEW YORK, OF THE AMERICAN MEDICAL
ASSOCIATION, ETC.

(Second Article.)

At a meeting of this society one year ago I presented for your consideration a paper† on "The Pathology and Radical Cure of Hay Fever, or Hay Asthma," an affection which has been considered the most intractable and the most distressing of the so-called minor ailments that are not immediately dangerous to life.

I pointed out that the essential subjective cause is found in the nasal passages, and is due to a hyperæsthesia, or special susceptibility of the tissues of these passages which has been induced by disease, either latent or active; that the objective cause of the irritation of these tissues during the hay-fever season is mainly (and all direct evidence goes to prove that it is solely) the pollen of various plants and grasses that float in the atmosphere during the warm months when the various plants and grasses are ripening.

Aside from the numerous experiments which have been made showing a direct cause and effect in every instance, the simple fact that by the removing of the individual entirely from the presence of pollen (and dust, which is always a violent irritant during this season, containing more or less

pollen) no symptoms of hay fever will be excited, no matter how much the tissues of the nasal passages may be diseased, or how sensitive these tissues may have become.

I also pointed out that the various symptoms that arise which appear to be more or less of a constitutional nature, producing the asthmatic and nervous symptoms, are but the reflected irritation from the nose through the sympathetic nervous system, to which may, however, be added the mechanical impediment to nasal respiration during the attack.

It is not my purpose in this paper further to discuss the ætiology and symptomatology of hay fever, but simply to add some further observations on the subject, and to present additional evidence proving the curability of the affection by removing the local cause in the nose.

There still seems to be in the minds of many a doubt as to the nature of the affection, because of the confounding of the cause and effect, or because the secondary constitutional symptoms are looked upon as the primary cause. This is but a natural mistake, which a study of the disease and of the physiological and anatomical relations of the parts involved in the affection will very readily rectify.

The recorded observations of various systemic phenomena and marked derangements in other organs arising solely from disease and irritation in the nasal passages are becoming very numerous in medical literature. That most frequently seen is asthma, which is usually a prominent symptom of an attack of hay fever.

That this asthma is unquestionably caused by a fluctuatory hyperæmia of the bronchial mucous membrane, produced by nerve irritation reflected from the nose, is shown by the frequent occurrence of asthma in conjunction with chronic affections of the nose, which disappears on the removal of the nasal disease.

Epilepsy, chorea, cerebral affections, supra-orbital neuralgia and hemicrania, laryngeal cough, spasm of the larynx, violent sneezing, are prominent among the many phenomena that nasal disease often induces.*

In an article on "Nasal Cough," Dr. J. N. Mackenzie, of Baltimore ("American Journal of the Medical Sciences," July, 1883, p. 106), has also pointed out that the seat or reflex irritability in the nose, in the production of cough, is located in the cavernous tissue at the posterior end of the inferior turbinated bones and posterior portion of the septum; that, by artificial stimulation of these parts, cough can be excited like that which is often produced by disease of these parts; but, by irritating other portions of the nasal chambers, no reflex irritability is excited, and the impression of the probe is simply that of a foreign body.

These conclusions are in entire accord with those of other observers. A number of cases have come under the observation of the writer in which they could be clearly demonstrated, not only in the production of cough, but also in the production of asthma, as cited in an article on "Nasal

* Read before the Medical Society of the State of New York at the annual meeting held at Albany, February 5, 6, and 7, 1884.

† See "Transactions" for 1883, p. 154; also "New York Medical Journal," May 12 and 19, 1883.

* Hack, of Freiburg, calls special attention to these various reflex neuroses, which are caused by nasal disease, in his brochure, "Ueber eine operative Radical-Behandlung bestimmter Formen von Migräne, Asthma, Heufieber, sowie zahlreicher verwandter Erscheinungen," August, 1883. Hack also affirms that by removing the turbinated bodies the cause of hay-fever is eliminated.

Disease a Frequent Cause of Asthma," read before the American Medical Association at Cleveland, June 6, 1883 ("Jour. of the Am. Med. Assoc.," September 15, 1883, p. 295).

It has been considered in my previous article that the vascular tissue covering the inferior turbinated bones and the lower and posterior portion of the septum is the seat of the irritation during an attack of hay fever, and that this tissue is always found hypertrophied.

This is true in the majority of cases; but an examination of a large number of hay-fever sufferers has shown that the middle and superior turbinated bones, the upper and anterior portion of the septum, or any or all portions of the nasal cavity, may also become so diseased as to be extremely sensitive to pollen irritation.

Some cases are also met with in which there is little or no hypertrophy of the turbinated tissue; but at the same time there is extreme sensitiveness of this tissue, which becomes greatly distended with blood on being excited by the slightest irritant. This is due to an increase in the size of the vessels, amounting almost to varicosity, in which the vessels have become dilated at the expense of the interstitial connective tissue. When free from irritation, the passages in these cases are commonly so free and open that, except for the appearance of the mucous membrane, disease of this tissue would be scarcely suspected.

The location of these sensitive areas can be discovered usually by the congestion and thickening of the tissues. In cases where turbinated hypertrophy or bony obstruction is the cause, it can not be mistaken or overlooked. By artificial stimulation with a probe, however, the sensitive areas can be accurately determined; for, as they are touched, marked irritation is induced—so much so that in many cases symptoms can be provoked identical and almost as severe as those attending hay fever, with lachrymation, violent sneezing, and asthma.

It has also been noticeable that, in those cases in which the septum is involved, sneezing is usually most easily provoked and most violent.

This fact would seem to indicate that, as a rule, irritation or disease of those regions of the turbinated bones covered by cavernous erectile tissue is especially provocative of asthma and cough, while the septum is the site especially provocative of sneezing.

The violent and prolonged attacks of sneezing in this affection are therefore mainly due to the pressure of the swollen turbinated tissue against the sensitive septum.

It is also to be observed that many patients suffering from chronic nasal catarrh, other than hay-fever sufferers, are often also subject to more or less prolonged attacks of violent sneezing. In these cases one or both nostrils will be found narrowed or obstructed, by a deflected septum, by a thickening of the turbinated bone, or hypertrophy of the soft parts, as the case may be, so that a small amount of irritation and turgescence of the opposite sides will bring the parts in contact. Sneezing will then be excited until free discharge of mucus takes place, the irritant is expelled, and the turgescence becomes sufficiently reduced to allow separation of the parts.

In those cases where there is constant contact between the septum and opposite wall for any considerable length of time the parts become inured, we might say, to the irritation, but any congestion of the parts and accession to the pressure will likewise provoke more or less sneezing.

It has been considered by many hay-fever sufferers that this affection is not necessarily associated with a catarrhal condition of the nasal passages during the remaining portion of the year after the disappearance of the season's attack.

This is a most decided error, for a hay-fever subject is yet to be seen who, even during the period when entirely free from the attack, has not more or less chronic rhinitis, or nasal catarrh, although often not sufficiently severe to give rise to much annoyance, particularly if the nasal passages be capacious and not markedly obstructed, whereas in small and narrow nostrils the same amount of disease would produce decided and annoying symptoms of nasal catarrh.

In many of these individuals with capacious nasal passages it is to be noticed that they become so accustomed to moderate nasal catarrh that they cease to be annoyed by it, but, when cured, marked improvement in the general health immediately follows and the taking of colds becomes correspondingly rare.

Notwithstanding the fact that in all cases the cause of hay fever arises from a catarrhal condition of the nasal passages, or chronic rhinitis, and is nearly always associated with hypertrophy of the turbinated bodies, and also the fact that it is commonly associated with more or less narrowing or occlusion of the passages (perhaps by a deflected septum, or perhaps by an enlarged or deformed turbinated bone, in addition to that caused by hypertrophy of the turbinated bodies), it must readily be seen that all patients in whose nostrils these conditions are found, and who suffer severely from nasal obstruction and nasal catarrh, do not have hay fever. Again, we often see patients in whose nostrils there is no obstruction or contact of the surfaces when free from the attack, but who have hay fever very severely. It must therefore appear that nasal obstruction can not be looked upon as the cause of hay fever, but only as *one of the conditions* predisposing to its development; but in individuals who are subject to hay fever the obstruction contributes markedly in aggravating all the conditions.

In our climate the hay-fever sufferers form but a small portion of the large number of persons who have narrowed or obstructed nasal passages, and who suffer greatly from nasal catarrh.*

This fact would seem to indicate that in hay-fever subjects this hyperæsthesia is due to a special diseased condition of the ends of the terminal nerve filaments of some or all of the branches of the fifth nerve that terminate in the mucous membrane of the nasal passages.

If such be the case, it shows that in some of these cases there must be a special proclivity for these terminal nerve

* My friend Dr. Harrison Allen, of Philadelphia, must have overlooked this fact, for, in an article on "Hay Fever and Allied Disorders" ("American Journal of the Medical Sciences," Jan., 1884, p. 156), he seems to believe that nasal obstruction alone is the direct cause of hay fever.

fibers to become diseased when so small an amount of disease of the surrounding tissues so readily affects them, and when in other cases we find no indication of these nerves being involved, however badly the surrounding tissues may be diseased.

(To be concluded.)

Clinical Reports.

NEW YORK HOSPITAL.

CLINICAL REMARKS BY ROBERT F. WEIR, M. D.

(Concluded from page 16.)

How Fractures of the Thigh and Leg are treated.

GENTLEMEN: When speaking of the use of the plaster-of-Paris bandage at my college clinic, a short time since, reference was made to its use in the treatment of fractures of the thigh and leg, and I promised to show you some time in this hospital cases illustrating the treatment of such injuries, which are not often seen at the college clinics.

I will first show you, therefore, the apparatus used in the treatment of an ordinary simple fracture of the thigh, the principle of which—extension of the limb by means of strips of adhesive plaster—was devised by Dr. Dixi Crosby, of New Hampshire, and was practically put into use in this hospital by the late Dr. Gurdon Buck, in 1852. It was about the year 1858 that this same surgeon, having got the hint from Dr. Davis, of this city, who first used it in the treatment of hip-joint disease, applied the weight and pulley as a means of extension of the limb in the treatment of fractures of the thigh, the attachment to the leg being by a long loop of sticking-plaster fastened to each side of the limb, extending up to a point just below the fracture.

The first case in which Dr. Buck made use of the apparatus was that of a child. Prior to that time a long splint was applied to the side of the leg and thigh, and at the bottom of this splint was a screw by which extension was made upon the loop of adhesive plaster. The counter-extension was made from a padded bandage passed around the perineum and buckled to the upper end of the splint. When the splint was discarded for the weight and pulley, the perineal band was fastened to the top of the bed, but, in its turn, the perineal band was done away with by the simple expedient of raising the foot of the bed, thus making the weight of the body act as the counter-extending force.

Before demonstrating to you the application of Buck's extension apparatus, as now used here, I want to show you a modification employed in the case of children, in which, instead of making traction on the limb in a line with the body, the limb is raised vertically, as you see in this little patient, and the weight passed over a pulley attached to a longitudinal bar above the bed. This method, due to Schede, of Hamburg, serves its purpose admirably, preventing the children from soiling the dressing, which they quickly do when the limb is in the horizontal position. At one time it was thought that possibly the retention of the leg constantly in the upright position might lead to congestion of the lungs, but, out of a great number of cases so treated, this accident has occurred in but a single instance. To prevent the possible rotation of the lower fragment on the upper, a double spreader (as the piece of wood is called which is inserted in the adhesive-plaster loop, just below the

foot) is employed, by which we are enabled to make extension directly in the line of the leg, not from one side, as was done when the method was first introduced; also the weight is al-



FIG. 1.

lowed to rest alongside the foot. In the case of the little patient before you, you can see that the apparatus is kept perfectly clean in this position, and it is now about three weeks since it was first applied, for a fracture of the thigh. It admits of the application of the bed-pan, and the child is in every way perfectly comfortable. It is important that the weight be sufficient to keep the nates of that side clear of the bed, and also, in the first week, that the patient's trunk be kept in a horizontal position, by a pinned towel or sheet if necessary. Children are apt to be restless, move about, and more or less displace the splint. For this reason, Dr. Hamilton, of this city, applies two splints, one to the fractured, and one to the sound leg, which gives good results, but is somewhat irksome.

Sometimes the little ones do well in a plaster-of-Paris splint, but the inherent objection to plaster of Paris is its tendency to become somewhat loosened and to chafe, especially in children. This is so marked that most surgeons have abandoned it in the treatment of fractures in this class of patients, as well as for adults.

For the purpose of illustrating the method of dressing a fracture and applying the splint, I have had this patient brought before you. In the first place, before applying the splint, you should measure the limb and compare its length with that of the sound one. The measurement should be made from the anterior superior spinous process of the ilium to the lower edge of the internal malleolus of the same limb, and compared with the same made on the sound side, the limb being placed straight with the body. Often there is a natural difference of from a quarter to half an inch in the length of the two legs. In fracture there is shortening commonly found, varying from half an inch to three inches. In this hospital measurements are carefully taken both before and after the treatment. Dr.

Buck's tables comprise the records of one hundred and forty-six cases, fifty-four of which were in children under fifteen years of age. The amount of weight employed varied from three to twenty pounds. In thirty-three of the cases no shortening at all took place; the maximum in the others was one inch, occurring in two cases. The average in the fifty-four cases was one sixth of an inch. In adults, out of ninety-two cases, there was no shortening in twelve, and the average amount was scarcely half an inch. The average weight used in these cases was fourteen pounds and a half. Remember this practical point in connection with a fractured thigh—that, when there is no more than three quarters of an inch difference in the length of the limbs, the pelvis accommodates itself thereto, and no limping takes place.

Here these fractures are usually dressed almost immediately after the patient is brought to the hospital, the history and the measurement having been first ascertained. The limb is supported by an assistant, and the foot by another assistant, and gentle traction is made, so as to keep it extended. The loop of stout sticking-plaster, but not the rubber plaster, as it often irritates, is applied and secured with a flannel bandage, which, as you know, possesses some qualities of elasticity. This bandage extends from the foot up nearly to the perinæum. I should say that some advise shaving the leg before putting the plaster on, as the patient occasionally complains of the traction on the hairs, and little ulcers have been known to result from this cause. Usually, however, unless the limb is very hairy, we do not shave it. A spreader a little wider than the distance between the malleoli is then put into the projecting loop of plaster, and to the center of this is fastened the twisted picture-wire that leads over the pulley to the weight below.

In this case the house surgeon is applying what are known as coaptation splints on each side of the limb, as well as underneath and on top. I do not think they are absolutely necessary, although they give one a feeling of greater security, on account of controlling the swelling which is apt to occur in the course of one or two days. Swelling is not usually so great in fracture of a single bone as when two are injured. The tension of the muscles acts sufficiently as splints to the bone itself. The dressing is now complete; but, when the limb is allowed to rest on a properly arranged pillow, there is always a strong tendency for the toes to roll outward. This can be guarded against by long bags of sand, but the best method is that here shown—by Volkmann's sliding rest, or traveler. This rests on two tri-

angular bars, and readily allows the patient to pull himself up in bed, by either grasping the bars above his head, or seizing the stirrup that you see hanging over each patient's bed in the wards, whenever he finds himself gravitating toward the foot. The inventive genius of Dr. Buck also extended itself to the making of this frame, which is attached to the foot of the bed, for the purpose of supporting the bed-clothes, relieving the limb of their weight. The house surgeon,

you will observe, has very carefully applied a cotton pad over the projecting toes, partly for ornament, partly for warmth. I as carefully take this off, for I prefer to have the toes uncovered and visible. It is the test of the condition of the circulation.

Look always at the toes in a fracture for several days after the injury. A German surgeon was once showing me with great satisfaction how nicely the toes were protected in similar cases in his wards, and, on removing the pad, in one of the cases gangrene was found about to take place in a part of the foot, due to disturbed circulation, which doubtless would have been detected early had the toes been left exposed. The splint is worn for about six weeks without change, unless there be some special indication. It is then removed, and the limb is measured and examined. There are two methods for determining whether union has taken place, one of which is to have the patient lift the leg by muscular effort. But this is not altogether unattended by danger, as, in case union is not perfectly firm, the fractured ends may separate. However, should such an accident occur, union takes place very rapidly, say within two or three weeks. The other method consists in gently and firmly manipulating the limb. If any doubt exists, the patient's cautiously increasing movements in the bed soon determine the question. Sometimes, while going about on crutches after removal of the splint, the patient slips and causes fracture anew. In the case of this boy whom I now show you such an accident occurred, and after this second time, which is not common, there was what is called delayed union. Let me say here a few words on this subject, as I can exhibit to you several cases of this trouble. Sometimes it is necessary to stimulate the local circulation in order to hasten union. Here is a patient in whom there was delayed union in the upper part of the thigh twelve weeks after the accident. From time to time, as the house surgeon passed through the ward, the limb was manipulated at the seat of the fracture, so as to cause irritation and an increased blood supply at the seat of the injury. After this had been done for a considerable time, until the patient cried out with pain almost with the first movement, it was discontinued, and the limb was put up in a plaster-of-Paris splint for four weeks, after which firm union was found to have taken place. Dumreicher, of Vienna, accomplished the same object by leaving a gap in the plaster-of-Paris splint at the seat of the fracture, arranging it in such a manner as to induce congestion, thus increasing the amount of blood supply and hastening union. I have tried the method in two cases with success.

Here are some other patients in whom union has been delayed. They were started walking about in a kind of frame known as "Darrach's," on which they can more or less completely support the body and take the major part of the body's weight off the bandaged limb, and at the same time sufficiently stimulate the circulation at the seat of the injury. One of the patients so going about has his fracture protected by a leather splint, and an old gentleman carries a plaster splint. The amount of mobility determines the need of a side support. Here is a man, in whom there was delayed union, who had compound fracture of the leg. He has been going about in the same way, and the limb is now doing very well.

Fractures of the Leg.—We have here, in an old lady, a Pott's fracture. The fibula is broken about two inches above the joint, and the internal malleolus is torn off. She slipped yesterday in the street, and there is but little contusion visible. The limb will now be put up in a plaster-of-Paris bandage, first lightly wrapping the leg with a flannel roller bandage, and then with a bandage into the meshes of which plaster of Paris has been rubbed, and which has been placed in a basin of water and kept there until bubbles ceased to rise. The bandage contain-

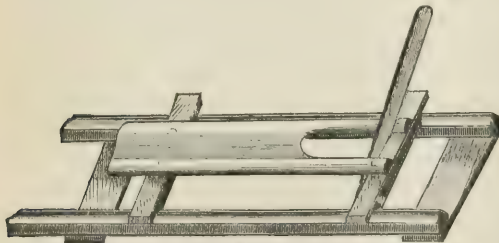


FIG. 2.

angular bars, and readily allows the patient to pull himself up in bed, by either grasping the bars above his head, or seizing the stirrup that you see hanging over each patient's bed in the wards, whenever he finds himself gravitating toward the foot. The inventive genius of Dr. Buck also extended itself to the making of this frame, which is attached to the foot of the bed, for the purpose of supporting the bed-clothes, relieving the limb of their weight. The house surgeon,

ing the plaster of Paris is made either of crinoline, of gauze, or of scrim, the latter being a coarse-meshed material used by carriage-makers to strengthen their wooden panels. From two to six layers of this bandage are applied. Plaster of Paris is a substance which rapidly becomes hardened. In half an hour it will offer considerable support; it will be completely hardened in one or two hours. The setting is hastened by putting a handful of salt into the water in which the bandages are immersed. A teaspoonful of alum will answer the same purpose. This is of service when there is much tendency to displacement of the fragments, as the extension or pressure by the assistants need not be kept up so long.

I here demonstrate to you the method of putting up a broken leg in a fracture-box. The box is open at the top and at the end next the body, and has sides and a foot-piece folding outward. It is padded with tow, jute, or bran, the padding being made thicker at the lower part of the leg, but it should not extend below the malleoli, for all pressure on the heel is to be avoided. When the limb is in place, the sides are raised up, the bran or other padding is packed so as to hold the limb laterally, the foot is secured to the foot-piece, and a bandage is passed over a large pad of blanket at the upper portion of the box, to prevent the possibility of the patient's moving the leg. To help keep the heel from touching the splint, a support made of sticking-plaster, preferably in this case of the rubber plaster, can be nicely adapted to the heel in the manner which I show you: a

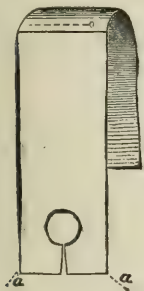


FIG. 3.



FIG. 4.

circular piece is cut out near the edge, of the size of the heel, the strip at the edge is cut through into the circular opening, and the flaps are overlapped so as to make a cup-shaped cavity to cover the heel accurately and also to adhere to the sole. The loose end, which is reversed, is stuck to the outside of the foot-piece, and over all a short bandage is carried. This support should supplement that afforded by the cushion under the tendo Achillis. You will notice that the same contrivance is employed in Volkmann's traveler in the treatment of fractured thigh. It is the house surgeon's duty, in all fractures of the lower extremity, to see daily that the heel is not resting on the bed of the splint, for bed-sores readily occur here from neglect of this precaution.

A lighter splint than the plaster of Paris is made from what is called water-glass, consisting of a soluble silicate of sodium, which is applied on a muslin or crinoline bandage by means of a brush. It dries more slowly than plaster of Paris, but it is lighter, and may be employed for sprains, or at the end of the second or third week in cases of fractured leg. The plaster-of-Paris splint is removed with some difficulty. It may be done with a pair of shears made specially for the purpose, or with a knife. When the knife is used, the leg may be protected by passing a flexible ivory paper-cutter down between the dressing

and the skin. The bandage is somewhat easier to cut when moistened with water, and some surgeons lay a strip of cloth soaked in weak nitric acid along the line of incision over-night, to soften it. The water-glass splint is more easily cut through, or the patient can speedily soak it so that the bandage can readily be unwound.

When a fracture of the leg occurs near the knee, as in the case of this boy, the splint, you will see, has to extend above the knee, rendering the joint stiff, in order that the upper fragments of the fractured tibia and fibula may be supported. When the fracture is at the lower part of the limb, the splint need not extend above the joint. The rule with us is to take off the first splint at the end of a week or ten days, and then apply one more snugly than at first, and the latter is not removed until six weeks after the reception of the injury.

When a compound fracture has advanced so far as to bear a plaster splint, or when, as in this case, the patient has a sore near the seat of the fracture, from contusion, a modification of the splint is required, in order to give exit to the discharges, and to enable us to dress the wound. An opening, or window, has to be cut in the plaster-of-Paris bandage after it is dry. This is not always an easy matter. To do it safely, some cotton is put over the ulcer, over that a square of rubber adhesive plaster larger than the opening is laid face upward, and then the plaster-of-Paris bandage; when the latter is hard, a piece is cut out. The cotton protects the parts better than anything else, and the adhesive plaster is cut across and turned over the edges of the opening, and helps to render them proof against soakage. To help prevent leakage of the discharges under the dressing farther down the leg, the space between the latter and the splint may be padded with rubber or cotton cloth, and this edge and the adjacent splint may be rendered non-absorbent by being painted with shellac dissolved in alcohol.

While I can safely tell you that simple fractures of the leg may be put up immediately after the injury, and while, as you see, that practice is followed in the hospital, where they can be watched carefully, and damage from undue swelling guarded against, yet the old injunction holds good for these latter injuries in the case of young practitioners—it is better for them to use the fracture-box or some other loose splint until the swelling begins to subside, and then resort to the plaster splint.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Medical Annals of Baltimore, from 1608 to 1880, including Events, Men, and Literature. To which is added a Subject-Index and Record of Public Services. By John R. Quinan, M. D., etc. Baltimore, 1884. Pp. 274.

The Pathology, Diagnosis, and Treatment of Diseases of the Rectum and Anus. By Charles B. Kelsey, M. D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum, etc. With two chromo-lithographs and nearly one hundred illustrations. New York: William Wood & Co., 1884. Pp. xiii+416.

Shakespeare as a Physician. Comprising every Word which in any way relates to Medicine, Surgery, or Obstetrics, found in the Complete Works of that Writer, with Criticisms and Comparison of the same with the Medical Thoughts of to-day. By J. Portman Chesney, M. D., Ex-secretary, Medical Society of the State of Missouri, etc. Chicago, St. Louis, and Atlanta: J. H. Chambers & Co., 1884. Pp. 226.

National Board of Health. Remarks before the Committee

on Public Health of the House of Representatives in Support of House Bill 2,785, 48th Congress, 1st Session, for the Protection of the Public Health, and in Refutation of Charges made against the Board by the Supervising Surgeon-General of the Marine-Hospital Service. Washington, 1884.

National Board of Health. Closing Argument submitted to the Committee on Public Health of the House of Representatives, 48th Congress, 1st Session, in Support of House Bill 2,785, for the Protection of the Public Health, and in Refutation of the Charges made against the Board by the Supervising Surgeon-General of the Marine-Hospital Service. Washington, 1884.

National Board of Health. Remarks before the Committee on Public Health of the House of Representatives in Support of House Bill 2,785, 48th Congress, 1st Session, for the Protection of the Public Health. By Dr. James L. Cabell. Washington, 1884.

Post-nasal Catarrh and Diseases of the Nose causing Deafness. By Edward Woakes, M. D., Senior Aural Surgeon, and Lecturer on Diseases of the Ear, London Hospital, etc. Illustrated with wood engravings. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 224. [Price, \$1.50.]

New York State Medical Association. Founded February, 1884.

First, Second, and Third Annual Reports of the Secretary of the State Board of Health of West Virginia, for the Years ending December 31, 1881, 1882, 1883. Wheeling, 1883.

Sarcoma Cístico del Testículo Derecho. Por José Armangué y Carreras-Solá. Trabajo del Laboratorio del Dr. Carreras-Aragó. Barcelona: Evaristo Ullastres, 1884. Pp. 35.

Introduzione allo Studio dei Bacteri. Pel Dott. C. Bergonzini. [Reprint from the "Spallanzani."]

A Review of the Operation of Gastrotomy for Myo-fibromata of the Uterus, with Complete Statistical Tables. By Horatio R. Bigelow, M. D., Washington, D. C. [Reprint from the "American Journal of Obstetrics."]

A Contribution to the Morbid Anatomy of Pons Lesions, including a Description of a Descending Degeneration of the Stratum Intermedium. By Edward C. Spitzka, M. D., Professor of Neuro-Anatomy and Pathology at the New York Post-Graduate Medical School, etc. [Reprint from the "American Journal of Neurology and Psychiatry."]

On the Discovery of the Periodic Law, and on Relations among Atomic Weights. By John A. R. Newlands, F. I. C., F. C. S., Member of the Society of Public Analysts, etc. London: E. & F. N. Spon, 1884. Pp. viii-39.

London Water Supply. Report, etc., No. xxxvii.

Correspondence.

LETTER FROM EDINBURGH.

The Fictical of the Tercentenary of the University; its Medical Aspects.—The Delegates, from Learned Bodies in Foreign Countries.—The Honorary Degree of Doctor of Laws.—The Banquet; Professor Virchow's Speech.

EDINBURGH, April 18, 1884.

THE taunt has been heard now and then that the University of Edinburgh was of little more than local importance—that its actual contributions to the advance of knowledge were comparatively meager—in short, that it was a "slow coach." If some of us Scotsmen have occasionally felt the smart of these uncomplimentary reflections, we have been abundantly compen-

sated by the events which the tercentenary has called forth. Surely, the world of science, literature, and art would not have sent such delegations—coming from every state in Europe except Spain, Greece, and Turkey, as well as from the United States and Canada—as have been seen in Edinburgh this week, if the occasion had been generally esteemed to be one of local importance only.

The festivities may be said to have culminated yesterday. For a number of days the city had worn a holiday aspect, but yesterday additional bunting, with the arrival of great numbers of curious country people, made it still gayer. Everybody seemed to feel the greatness of the occasion. In the morning, a multitude of people having gathered in Synod Hall, the delegates were received and the honorary degrees were conferred. Among the delegates belonging to the medical profession or engaged in teaching medical science were the following: Professor Fredet, of Clermont; Professor Saxtorph, of Copenhagen; Professor Hoffmann, of Dorpat; the Rev. Dr. Haughton, of Dublin; Professor Boddart, of Ghent; Professor Doijer, of Leyden; Professor Carpenter, of London; Professor Ask, of Lund; Professor von Pettenkofer, of Munich; Dr. Atherton, of New Brunswick; Professor Chiari, of Prague; Professor Thierfelder, of Rostock; Professor Cleve, of Upsala; Professor Mendeleeff, of St. Petersburg; Dr. Billings, of the University of Pennsylvania; Professor Virchow, of Berlin; Dr. Moore and Dr. Wheeler, of Dublin; Dr. Balfour, Dr. Smith, and Dr. Mitchell, of Edinburgh; Dr. Fergus, of Glasgow; Dr. Sieveking, Dr. Wilks, Dr. Priestly, Dr. Duckworth, Sir Risdon Bennett, Dr. Bristowe, and Mr. Erichsen, of London; Professor Thurnburn, of Manchester; and M. Gueneau de Mussy, M. Pasteur, and Professor Ball, of Paris.

The honorary degree of LL. D. was conferred upon the following-named gentlemen: Dr. G. W. Balfour, of Edinburgh; Dr. Fordyce Barker, of New York; Dr. J. S. Billings, of the United States Army; Sir William Bowman and Dr. J. S. Bristowe, of London; Professor Chauveau, of Lyons; Sir Andrew Clark, of London; Dr. Thomas Crawford, of the British Army; Mr. J. E. Erichsen and Sir William Gull, of London; Dr. D. R. Haldane, of Edinburgh; the Rev. Dr. Haughton, of Dublin; Professor von Helmholtz, of Berlin; Sir William Jenner, of London; Dr. Thomas Keith, of Edinburgh; Mr. John Marshall and Dr. Henry Maudsley, of London; M. H. Gueneau de Mussy, of Paris; M. Ollier, of Lyons; Sir James Paget, of London; M. Louis Pasteur, of Paris; Dr. von Pettenkofer, of Munich; Dr. W. O. Priestly, of London; Sir J. W. Reid, of the British Navy; Dr. M. H. Saxtorph, of Copenhagen; Dr. E. H. Sieveking, of London; Dr. Rudolph Virchow, of Berlin; Dr. P. H. Watson, of Edinburgh; and Dr. Samuel Wilks, of London. The same degree *in absentia* was conferred on Professor R. W. von Bunsen, of Heidelberg; Professor S. D. Gross, of Philadelphia; Professor J. Henle, of Göttingen; and Professor J. Hyrtl, of Vienna.

The Royal Medical Society gave a reception in the afternoon, and in the evening the banquet took place in the Drill Hall. Although about thirteen hundred persons were present at the banquet; the arrangements were such as to secure perfect comfort. Among the speeches was one by Professor Virchow, who traced a connection between the modern revival of scientific medicine and the overthrow of ecclesiastical tyranny, and placed the medical magnates of the early days of the University of Edinburgh side by side with Vesalius and Paracelsus as having helped to win the first great victory over Galenism. He referred appreciatively to Harvey, Cullen, the Monros, the Bells, the Simpsons, Sir Joseph Lister, and other men of renown in British medicine, and showed a familiarity with their achievements which was very gratifying to his hearers.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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Edited by
 FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 3, 1884.

THE MEETING AT WASHINGTON.

From all the indications that have come to our knowledge, we judge that the meeting of the American Medical Association, which is appointed for Tuesday, Wednesday, Thursday, and Friday of next week, will be one of the most largely attended of all that the association has held. In the first place, the meeting is to take place in a city that has ample accommodations for a large number of strangers, besides being an attractive place in itself. In addition, there are several institutions in Washington that thousands of medical men in all parts of the country must long have felt a strong desire to visit—the Army Medical Museum, the Library of the Surgeon General's Office, the Naval Museum of Hygiene, etc., to say nothing of the features of interest to them in common with all other citizens of the republic.

But it is not in undue measure to these extraneous attractions that the meeting will owe its success; work of an unusually profitable character has been laid out for the sections, the lists of papers to be read and of discussions to be held showing an array of names seldom found to figure on like occasions. All this speaks in praise of the selection made of the chairmen of the various sections, and indicates that those officers must have exerted themselves to an unwonted degree to be able to present the satisfactory programmes that foreshadow the work of the meeting. While much credit is due these gentlemen individually, we can scarcely doubt that they caught their inspiration largely from the honored president of the association, whose presence ought to be a tower of strength to the meeting.

An interesting feature of the meeting will be the fact of its being the first one held since the establishment of the association's journal. The members will feel that they have just cause for congratulating themselves on the admirable course which the journal has pursued during the first year of its existence, and they will feel, too, that their choice of the "father of the association" to be its editor has been abundantly justified by the dignified, kindly, and modest tone that has marked its editorial columns.

Some apprehension seems to be felt that a wrangle over the subject of ethics will mar the concord of the meeting. We are unable to see the ground for this fear. Unless the question is broached by the president in his annual address, it seems to us hardly likely to come up at all, for a motion to amend the code is almost the only occurrence that could legitimately bring it before the meeting. The indications are that some such device will be resorted to as proved so successful last year in keeping out all who were unwilling to sign a declaration which sub-

stantially bound them not to countenance any interference with the code. If this is done, there will be nobody in the meeting who is inclined to make a motion of the sort. When the rancor incident to the recent ethical struggle in the State of New York has abated, it will be found, we believe, that the true men of the profession all over the country are essentially in accord on the subject of ethics, their differences relating only to matters of policy. We think, therefore, that the association will be acting in the interest of ultimate harmony if it ignores the ethical question for the present.

STRETCHING THE SPINAL CORD.

A RECENT issue of Volkmann's "Sammlung klinischer Vorträge" embodies a paper read by Professor Hegar before a medical society of Freiburg, in which that author deals with certain nervous manifestations that often appear to be connected with pelvic disease in women. Special reference is had to those phenomena that affect the nerves springing from the lumbar portion of the spinal cord—such as pain in the region of the sacrum, various neuralgias and hyperæsthesias in the course of the ilio-inguinal, the genito-crural, and the pudic nerves, radiating pains in the nerves of the lower limbs, partial paralyses of the latter, a bearing-down feeling in the pelvis, and difficulty in urination and defecation. These he classes as lumbar-cord symptoms (*Lendenmarkssymptome*).

Notwithstanding the common association of these symptoms with uterine disease, the author questions if they may not often owe their origin to an affection of the cord itself, and alludes to the well-known fact that they frequently persist and require treatment after the cure of any pelvic disease that may be found associated with them. He calls attention also to the point in the clinical history so often brought out by patients, that the symptoms complained of date from an occasion when some unwonted strain was brought to bear upon the body, involving especially an exaggerated bending of the spine forward, and suggests that the primary effect of such a strain may have been exerted quite as much upon the spinal cord as upon any of the structures situated within the pelvis. At the same time, he has no disposition to underrate the efficiency of treatment addressed to the pelvic organs in alleviating the symptoms in question.

Struck with the mobility shown by the vertebral column particularly its lumbar portion, in the various postures assumed by patients to facilitate gynecological manipulations, and by certain researches bearing on the subject by Schultze and Meyer, the author performed a number of experiments on the cadaver, to test the question of the behavior of the spinal cord under the influence of forced flexion of the vertebral column. Several of these experiments are related in detail, among them the following: The dura mater was exposed by removing the arches of the vertebra of a cadaver lying prone on a table. Two points, 125 mm. apart, were marked on the dura by means of threads, and the two corresponding points in the bodies of the vertebrae by needles driven into the bone. On moderate flexion, the two points on the dura were found to be 130 mm.

and those on the vertebræ 132 mm. apart. On more decided flexion, the points were separated to distances of 132 and 133 mm., respectively.

Continuing the inquiry in another direction, Hegar found that a notable stretching of the spinal cord was the result of traction on the sciatic nerve, and the question is suggested, whether many of the effects observed after nerve-stretching may not really be due in some measure to the accompanying stretching of the medulla.

The author has devised methods of stretching the cord in the living subject, and has employed them therapeutically with advantage. At present, he remarks, it is advisable to proceed cautiously with such procedures, for we have little more than empirical observation to guide us, and it is well to select cases as uncomplicated as possible, especially with disorders of the general health or of the sexual organs. The manipulation consists in the forcible approximation of the head and the knees. The lower limbs being held straight and stiff on a firm table, the head may be drawn down toward the knees; or, with the patient lying on the back, the limbs may be raised. In either case there must be no bending of the knees, for that would allow of such an amount of motion at the hip joints as to defeat the object in view. The patient should not be anesthetized, for the amount of pain produced is to be taken as a guide to the degree of force it is safe to employ.

Individuals differ decidedly in the degree of flexion that can safely be practiced upon them, and the degree increases as the manipulation is repeated. The author points out that a gymnastic exercise known as "*das Azthaven*," which, he thinks, must have somewhat the same effect as his manœuvres, was recommended by Schreiber for incipient paraplegia; but this fact, we fancy, will not lead the reader to deny the originality of Hegar's proposal. It would be interesting to know how the patients like the treatment; for ourselves, we think we should prefer to bear any ordinary infliction.

MINOR PARAGRAPHS.

A NEW JOURNAL OF OPHTHALMOLOGY.

WE have received the first number of the "*American Journal of Ophthalmology*," dated April 15, 1884. It is published in St. Louis, and edited by Dr. Adolf Alt, of that city, in conjunction with an able corps of collaborators. The journal is to be issued in monthly numbers, of thirty-two pages each. The April number contains two articles by the editor, one by Dr. F. C. Hotz, one by Dr. Henry Ferrer, one by Dr. H. Culbertson, one by Dr. S. C. Ayres, and one by Dr. Henry Schwarz. These papers are largely clinical in their nature, and of great practical interest. The journal is handsomely printed and altogether of pleasing appearance.

NEWS ITEMS, ETC.

MIRYACHT.—The "*British Medical Journal*" for April 19th contains Dr. William A. Hammond's article on this curious affection, being the same article that we gave in our issue of February 16th.

PROFESSOR SAMUEL D. GROSS, OF PHILADELPHIA.—We regret to learn that Dr. Gross is at present the subject of an illness

that is considered serious. His speedy convalescence was looked for last week, but a distressing gastric disturbance afterward occurred, and occasions some anxiety.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 29, 1884:

DISEASES.	Week ending April 22.		Week ending April 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	10	1	7	0
Typhoid Fever	10	4	8	4
Scarlet Fever	100	13	103	16
Cerebro-spinal meningitis	0	0	4	3
Measles	78	2	87	9
Diphtheria	49	18	41	16

THE YELLOW-FEVER QUARANTINE.—The quarantine service has already been established at Ship Island and at Sapelo Sound, Ga., and it is announced that it will be put in operation at Cape Charles on the 15th inst.

A SUMMER HOSPITAL FOR CHILDREN, designed to accommodate about thirty patients, is in contemplation by the people of Rochester, to be built on the shore of Lake Ontario.

THE HARVARD MEDICAL SCHOOL.—It is announced that Dr. Robert T. Edes has been appointed professor of clinical medicine, to succeed the late Dr. Calvin Ellis.

THE NEW YORK CANCER HOSPITAL is reported to have received a gift of \$200,000 from Mr. John Jacob Astor, together with a number of smaller sums from others. We understand that land has been bought for the purposes of the hospital in the vicinity of the Central Park, on Eighth Avenue, and that work will soon be begun on the buildings.

THE NEW YORK SKIN AND CANCER HOSPITAL held its annual "Kirmess" at the Metropolitan Opera House on Tuesday of this week.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—We learn that the college is to lose the services of Dr. William H. Welch, the present professor of pathological anatomy and general pathology and demonstrator of anatomy, on account of his having accepted a position in the Johns Hopkins University. We understand also that Dr. Gaspar Griswold has been appointed demonstrator of anatomy.

THE MEDICAL DEPARTMENT OF THE WESTERN RESERVE UNIVERSITY, OF CLEVELAND, is to have a new building. Among the additions to the necessary fund is one of \$10,000 from the estate of the late Mr. Hurlbut, whose large bequest to the City Hospital we lately recorded.

A PRIVATE HOSPITAL FOR DISEASES OF THE EYE.—We are informed that Dr. Thomas R. Pooley will open his private hospital, at No. 107 Madison Avenue, about the middle of May, and that complete preparations are being made for the proper nursing and care of patients.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION will hold its first annual meeting in Washington on Saturday and Monday, May 3d and 5th. The following papers are announced: Opening Address, F. I. Knight, M.D., Boston; the Etiology of Pulmonary Phthisis, B. F. Westbrook, M.D., Brooklyn; Dryness and Elevation the Most Important Elements in the Climatic Treatment of Phthisis, Charles Denison, M.D., Denver; Some Observations on the Diagnosis of Pulmonary Diseases, D. N. Kinsman, M.D., Columbus; the Effects of Humidity on the Cause and Course of Diseases, W. H. Geddings, M.D., Aiken; the Effects of Sea Air on Diseases of the Respiratory Organs;

Boardman Reed, M. D., Atlantic City; the Use of Compressed and Rarefied Air, as a Substitute for Change of Climate, in the Treatment of Pulmonary Diseases, J. Solis Cohen, M. D., Philadelphia; the Constituents of Climate and their Relation to Disease, J. H. Tyndale, M. D., New York; the Relation of Laryngeal to Pulmonary Diseases, F. H. Bosworth, M. D., New York; the Climate of Large Cities Dangerous to Consumptives, Frank Donaldson, M. D., Baltimore.

UNWHOLESOME WELLS IN BROOKLYN, to the number of ninety-two, have been ordered to be closed by the Board of Aldermen, having been condemned by the Board of Health.

THE CONTAGIOUS CATTLE DISEASES BILL, providing for the "Bureau of Animal Industry," has passed the United States Senate with some amendments, chiefly the reduction of the appropriation to \$150,000.

A CHOLERA SHIP OFF THE ENGLISH COAST.—The British troop ship Crocodile, from India, is reported as in quarantine at Portsmouth, having had eight cases of cholera on board since she left port, six of which proved fatal.

THE STATE LUNATIC ASYLUM AT UTICA.—The legislative committee appointed to inquire into the alleged abuses at this institution has presented its report, and the document contains serious charges in regard to the management of the asylum, both from a business point of view and as regards the care of the patients.

THE IMPORTATION OF RAGS FROM EGYPT.—The Secretary of the Treasury has issued the following circular for the information of collectors of customs and others:

The following letter to this department from the Secretary of State, dated April 16, 1884, is published for your information and guidance, and, until further notice, rags from infected ports will not be permitted to land except under the provisions contained therein:

(COPY.)

"I have the honor to say, in connection with previous correspondence in relation to the proper disinfection of rags imported into the United States from Egypt, that the department has, upon careful and mature consideration of the subject commensurate with the interests involved, decided upon the following methods of disinfection, either of which will be satisfactory to the health authorities of New York city, New Haven, and Boston, who have been consulted in respect to the matter, viz.:

"1. Boiling in water for two hours under a pressure of fifty pounds per square inch;

"2. Boiling in water for four hours without pressure; and

"3. Subjection to the action of confined sulphurous-acid gas for six hours, burning one and a half to two pounds of roll brimstone in each 1,000 cubic feet of space, with the rags well scattered upon racks.

"Full and explicit instructions have accordingly been given to Mr. George P. Pomeroy, our agent and consul-general at Cairo, and Mr. Francis McNally, a citizen of the United States, has been designated as the inspector. He will have immediate supervision, under the consul-general, of the process of disinfection, will be required to give the subject his earnest personal attention, and furnish a proper certificate. Mr. McNally's certificate will show the following facts:

"1. His name;

"2. The name of the consignee in the United States;

"3. The place where the rags were disinfected; and

"4. The process of disinfection, which must be one of the processes hereinbefore described.

"After that the consul-general is to authenticate the certi-

ficate given by the inspector. This process is to be observed in the case of every bale of rags, which is also to be marked 'Thoroughly inspected,' with the name of the inspector.

"Mr. Pomeroy has been told that, although he should not refuse to certify invoices even when lacking the inspector's certificate, he must give notice to all shippers of rags that these goods will not be permitted to enter the United States unless accompanied by such certificate."

PROFESSOR BACCCELLI, OF ROME, formerly the Italian Minister of Public Instruction, has resumed his clinical lectures at the Ospedale di S. Spirito, as we learn from the "Gazzetta degli Ospitali."

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 20, 1884, to April 26, 1884:*

HOFF, JOHN VAN R., Captain and Assistant Surgeon. To be relieved from duty at Alcatraz Island, California, and to report to the commanding officer at Fort Mason, California, for duty as passed surgeon. Par. 3, S. O. 45, Headquarters Department of California, April 16, 1884.

PORTER, JOSEPH Y., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect about May 5, 1884. Per S. O. 38, Headquarters Division of the Missouri, April 19, 1884.

BIAET, VICTOR, Captain and Assistant Surgeon. Granted leave of absence for one year on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 2, S. O. 91, A. G. O., April 19, 1884.

LA GARDE, LOUIS A., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for two months' extension. Par. 1, S. O. 91, A. G. O., April 19, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending April 26, 1884:*

HIBBERT, C. T., Passed Assistant Surgeon. Ordered to U. S. iron-clads, James River, Va.

AULICK, H., Passed Assistant Surgeon. Detached from iron-clads and ordered to the New Hampshire.

DIXON, W. S., Passed Assistant Surgeon. Detached from the Hartford and ordered to the coast-survey steamer Hassler.

TERRELL, F. H., Passed Assistant Surgeon. Detached from the Hassler and ordered to the Hartford.

WISE, J. C., Surgeon. Detached from the New Hampshire and placed on waiting orders.

SCHOFIELD, W. K., Medical Inspector. Appointed Medical Inspector on active list.

NASH, F. S., Passed Assistant Surgeon. Detached from Laboratory and ordered to the Alert (Greely Relief Expedition).

HALL, J. H., Passed Assistant Surgeon. Ordered before Retiring Board.

NELSON, H. C., Medical Inspector. Placed on retired list.

BATTLE, S. W., Passed Assistant Surgeon. Placed on retired list.

TERRELL, F. H., Passed Assistant Surgeon. Resigned.

MURRAY, J. M., Passed Assistant Surgeon. Ordered to the Minnesota.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, May 5th:* Association of American Medical Editors (Washington); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association.

Tuesday, May 6th: American Medical Association (Washington—first day); New York Obstetrical Society (private); New York Neurological Society; Buffalo Medical Association;

Ogdensburgh Medical Association; Medical Societies of the Counties of Hudson (annual) and Mercer, N. J.

Wednesday, May 7th: American Medical Association (second day); Medical Society of the County of Richmond, N. Y.

Thursday, May 8th: American Medical Association (third day); Society of Medical Jurisprudence and State Medicine; Harlem Medical Association (private); Brooklyn Pathological Society.

Friday, May 9th: American Medical Association (fourth day); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, May 10th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

PROFESSOR WILLARD PARKER.—The fear expressed in our last issue was speedily shown to be well founded; before the journal had reached the great majority of its readers, Dr. Parker's death had occurred. It took place on Friday afternoon of last week, the 25th inst. Concerning his last illness, there is nothing to be added to the information we have already given our readers. The funeral took place on Monday, the 28th inst., and was very largely attended by the profession of New York, as well as by a great number of friends of the family. The interment was at New Canaan, Conn., in which town Dr. Parker had spent many of his summers for a number of years past.

Willard Parker, M. D., LL. D., was born in Hillsborough, in the State of New Hampshire, September 2, 1800, being descended from one of the English families that took part in the settlement of the town of Chelmsford, Mass. When he was five years old, his parents removed to Chelmsford, where he obtained the rudiments of his education, and where, when nineteen years old, he himself took charge of a district school, by which means he prepared himself, both mentally and financially, for the academic course at Harvard University, from which he was graduated in 1826. It is said that, during his freshman year in college, he was led to give much thought to the art of surgery by having had occasion to admire the skill with which Dr. John C. Warren, at that time the professor of surgery in the Harvard Medical School, diagnosed and reduced a strangulated hernia in the person of one of his classmates.

Having entered upon the study of medicine, he spent two years as house physician to the United States Marine Hospital at Chelsea, Mass., and afterward became a private pupil of Dr. Warren's and an assistant in the anatomical department of the medical school. In 1829 he was appointed a house pupil at the Massachusetts General Hospital, and the next year he received the degree of doctor in medicine from the Harvard Medical School. He began his career as a teacher at once, lecturing first on anatomy in the medical school at Woodstock, Vt., at that time an important institution. He was then appointed professor of anatomy, and subsequently of surgery, in the Berkshire Medical College, at Pittsfield, Mass. In 1836 he went to Cincinnati, having accepted the chair of surgery in the Cincinnati Medical College. There he was closely associated with Dr. Samuel D. Gross, now of Philadelphia. He left his work in Cincinnati to continue his studies in Europe, and, on his return to this country, it was his intention to resume practice and teaching in Cincinnati, but the state of his health was such as to determine him to settle in New York.

In 1839 he was appointed professor of surgery in the College of Physicians and Surgeons, a position which he held until 1870, when he was made professor emeritus. When the old almshouse was converted into Bellevue Hospital, in 1845, he was made one of the surgeons to the hospital, and in 1856 he received a like appointment at the New York Hospital. In

these two hospitals, and as a clinical teacher at the College of Physicians and Surgeons, the great work of his life was performed, although at various times he was connected with a number of other hospitals, and was a member of all the chief medical societies of the city. When the Metropolitan Board of Health was created, in 1866, Dr. Parker was appointed one of the commissioners, the others being Dr. Stephen Smith, the late Dr. John O. Stone, and Mr. Jackson H. Shultz.

Dr. Parker was a general practitioner, and to the last he doubted the propriety of specialties, but his excellence as a surgeon led to a decided preponderance of surgery in his practice, and for a long term of years he was the leading surgeon of New York. Although he had a wonderful knowledge of anatomy and of the principles of surgery, he was not what is generally understood as a "well-read man." He rarely quoted authors, but he was seldom at a loss to bring his own immense experience to bear upon any rare case that chanced to come up in practice. He was not bound by empiricism, however, but always sought to correlate the facts which he observed, displaying an originality and an ingenuity that never failed to impress those with whom he came in contact. He was exceedingly exact as a diagnostician, but his methods of diagnosis were not those of the books, and, whenever his conclusions were questioned, he was apt to support them with arguments that few other men would have thought of, but that carried with them irresistible weight. His strong point as a practitioner was his unerring appreciation of the leading feature in cases where others were apt to be confused by minor details. In addition, he always recognized that his function was to treat the patient rather than the disease.

As an operative surgeon, Dr. Parker was appreciated aright only by the few who had seen him operate a great many times, for in ordinary operations he displayed none of the dash, precision, and neatness that were to be found in many of his inferiors; his stumps were not apt to look "nice," for instance. But in rare operations his *technique* was faultless and his precise knowledge of anatomy conspicuous. It is related of him that, while yet a young man, in Cincinnati, he was one day doing an operation that called for unusual care and skill, when an ill-natured bystander called attention in a whisper to the fact that his hand trembled, whereupon the late Dr. Muzzey remarked that he wished his own hand would "tremble in the same way." The glamour of an operation never seemed to have the slightest charm for Dr. Parker; he regarded the procedure only as an incident in a defined plan of managing disease or injury, and he never lost an opportunity to impress upon young practitioners the relative unimportance of operative work. To the intensity of his convictions in this regard it is no doubt due that he was not a seeker after novel methods, so that his treatment of vesical troubles by cystotomy and his operation for perityphlitis are almost his only noteworthy achievements in this direction.

As a teacher, Dr. Parker was distinguished for his earnestness and for the aptness of his illustrations. In his lectures he taught principles, paying little attention to matters of detail. His contributions to the literature of medicine were few. Early in his career he edited an American reprint of Cooper's "Surgery." His notes to the edition were very brief, but they were all to the point. His temperament fitted him for oral teaching, but he entertained something of contempt for those he termed "book-makers." His last contribution to medical literature, a short article on "Carbolic Acid in the Treatment of Wounds," was published in this journal for January 6, 1883. Dr. Parker always bore his full part in what he conceived to be the duty of the profession as teachers of the community, and on many occasions he gave public lectures, generally on subjects connected with hygiene.

As a man, Willard Parker was undeniably great. He was a typical democrat, impatient of all sorts of pretense and without a particle of diplomacy in his make-up. The kindliness of his manner was the direct reflection of his heart, as far removed as possible from courtliness or suavity, but aglow with genuine good feeling. His bluntness and his devotion to truth sometimes led him into hasty criticism of his fellows, but the pain he thus gave was always a source of unfeigned regret to him, and he never failed to make all possible amends. He supported his friends with a strong hand, and it is not too much to say of him that he was "the making" of many of his younger professional brethren. In his personal appearance Dr. Parker was a remarkably handsome man, and a man of great physical vigor and activity. These attributes, together with his joyous temperament, enabled him to inspire his patients with hope and courage; it was often said of him, indeed, that he could "put a smile on a dead man's face." Dr. Parker was a man of deep religious convictions, and his morality was spotless. His personal habits were exceptionally regular and correct. With all this, his ardent and hearty temperament made him dear to his family and his intimate friends, and attractive to all who came in contact with him. By his death both the profession of medicine and the community lose a strong man and a good man.

PROFESSOR J. B. DUMAS.—Our French exchanges announce that the death of this eminent chemist took place on the 11th of April, in the eighty-fourth year of his age. At a comparatively early age M. Dumas ceased his work as a teacher, but he will be remembered for his connection with the theory of substitution and for numerous contributions to physiological chemistry.

DR. JOHN M. CUYLER, OF THE ARMY.—Surgeon and Brevet Brigadier-General Cuyler died at his home, in Morristown, N. J., on Saturday, April 26th. He entered the army as an assistant surgeon in 1834. He served with honor and distinction during the late civil war, and received several brevets. At the time of his death he was on the retired list.

DR. CHARLES T. HUNTER, OF PHILADELPHIA.—Dr. Hunter, the demonstrator of anatomy in the University of Pennsylvania, died on Sunday, April 27th, in his forty-first year. He was a native of Ohio, received his preliminary education in New England, and was graduated in medicine from the University of Pennsylvania. He was one of the contributors to Dr. Ashurst's "International Encyclopedia of Surgery." His death is said to have been the remote result of a dissection wound.

DR. ROLPH D. MARSH, a graduate of the Medical Department of the University of the City of New York, in the class of 1879, died on Tuesday, April 29th, after a brief illness. For a time he was connected with the Reception Hospital in Ninety-ninth Street.

Letters to the Editor.

AFFECTIONS OF THE SKIN DUE TO BORAX.

79 BOYLSTON STREET, BOSTON, MASS.

To the Editor of the *New York Medical Journal*:

SIR: Will you kindly grant me the use of your correspondence columns to request from any physician who may have observed squamous or other pathological conditions of the skin following the internal administration of borax (whether for epilepsy or not) very brief notes of the cases for publication?

Treatises upon diseases of the skin do not appear to recognize such conditions, yet they have been observed in England by Gowers and other writers upon mental and nervous diseases, as also in Boston in this country.

Very respectfully,

EDWARD WIGGLESWORTH, M. D.

THE AMERICAN MEDICAL ASSOCIATION.

137 WEST TWENTY-SECOND STREET, April 29, 1884.

To the Editor of the *New York Medical Journal*:

SIR: The case of Dr. Allan McLane Hamilton, he having been asked to read a paper before the American Medical Association, and being afterward refused, is not isolated. A similar thing has happened to me in another section, only with the difference that the chairman of that section, after having requested me, in December last, to prepare a paper for the association, which invitation I accepted, wrote again to me, in the middle of January, informing me that he had received a printed statement of the standing of all the physicians in New York State on the code question. Learning that I belonged to the new-code or no-code party, he feared that I might be subject to unpleasant experiences if I offered to read a paper in the coming session of the association, and said that, in his judgment, I had better not fulfill my promise to him.

Dr. Hamilton's experience shows how friendly this advice was.

Yours, very truly,

H. J. GARRIGUES.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 22, 1884.

CHARLES McBURNEY, M. D., Vice-President, in the chair.

ELEPHANTIASIS; LIGATION OF THE FEMORAL ARTERY.—DR. L. A. STIMSON presented a woman whose femoral artery he had tied four weeks before for elephantiasis of the leg.

She was fifty years old, and had always been healthy. Twelve years ago she had an attack of erysipelas in the foot, which soon got entirely well, but was followed after a month by another in the right leg, which left the limb somewhat swollen. Other attacks followed at intervals of two and three months for several years, leaving the limb larger after each attack than it was before. She was admitted to Bellevue Hospital, March 4, 1884, with marked elephantiasis of the right leg from the knee to the ankle, both the foot and the thigh being very œdematous, and the skin normal. She was kept in bed, firm pressure being made on the leg by roller bandages over a layer of cotton, and an elastic bandage was kept on the thigh. After about three weeks of this treatment the œdema had left the thigh, but the leg was unchanged, and still measured 23.5 inches in circumference. The other leg measured 8.5 inches at the calf.

March 24th the femoral artery was tied, at the apex of Scarpa's space, with catgut, and the limb wrapped in a thick layer of cotton.

April 2d the dressing was changed and the wound found healed. The leg measured 21 inches, and the foot was much less œdematous. The rubber bandage was then applied snugly to the leg over a layer of cotton, and had been used constantly to the present time, the patient being kept in bed. April 4th the leg measured 17 inches; April 8th, 14.75 inches; April 12th, 12.75 inches, which was its present size.

Dr. Stimson had refrained from using elastic pressure before the operation, because the books spoke so discouragingly of its efficiency, but he regretted now that he had not used it, even if

only to prove such inefficiency, and in a similar case he would give it a thorough trial before resorting to operation. At the same time he felt obliged to call attention to the rapid decrease of the œdema during the first week under the influence of the operation alone, and he thought it quite probable that the ligature and the bandage employed in concert had done much more than either would have done alone.

Dr. ALFRED C. POST had had a case several years ago of incipient elephantiasis in a person from the West Indies, in which great benefit followed continued pressure from the bandage. When the patient left, there was an approximation to an apparent cure.

Dr. C. K. BRIDGON had seen a case in the New York Dispensary several years ago in which there was considerable doubt as to whether it was one of obstruction of the lymphatics only or of true elephantiasis, but, at all events, marked benefit was afforded by the application of bandages wet with soda-water. The condition, however, returned in a measure, owing to discontinuance of the treatment and the return of the patient to his bad habits. If his memory served him correctly, Dr. Carnochan was the first to treat cases of this kind by ligation of the femoral artery.

Dr. J. L. LITTLE said that Dr. Carnochan's was the first case treated in this way, but only temporary relief was afforded.

Dr. E. L. KEYES said the opinion of dermatologists was against ligation of the femoral artery in the treatment of elephantiasis. The twelfth case of operation was reported by Mr. Buchanan, in the "British Medical Journal" for 1867, p. 465, who reported that nine had been cured, in two improvement occurred, and a third patient died of pyæmia from the operation. In the "Deutsche Zeitschrift für Chirurgie," 1876, thirty-two cases were reported. Of these there were twenty-three in which ligation of the femoral was performed, and of the twenty-three cases there were relapses in all except three. The consequence was that the operation was looked upon as one which might afford rapid amelioration in all cases, perhaps, but did not give a permanently favorable result. Dr. Carnochan's case ("Amer. Jour. of the Med. Sciences," July, 1867, p. 109) was one of elephantiasis Græcorum, which differed materially from elephantiasis Arabum, the malady treated in Dr. Stimson's case, and in most other cases of ligation.

Another case had been reported by Dr. Van Zetti,* in which the femoral artery was tied, a starch bandage was applied, and the patient was directed to go home and keep up the pressure by means of such a bandage for some time. At the end of three years the patient returned, having kept up pressure by means of the starch bandage continuously for the entire time, and the result was that the disease had become permanently cured and the limb was somewhat smaller than its fellow. Dr. Keyes thought that it would be proper to apply pressure not only to reduce the œdema, but for the purpose of maintaining continued pressure to prevent the disease from starting afresh. So far, then, as the present evidence stood, it was to the effect that the operation always was of benefit, but generally the benefit was temporary.

URETHRAL CALCULUS.—Dr. LITTLE presented a specimen, and said that, on the 26th of October, 1883, he had been called to see a boy, about twelve years of age, who gave the following history: The night before, while playing marbles in a stable, he received a severe contusion of the perineum by suddenly squatting down and coming in contact with the blunt end of an iron hook. This gave rise to considerable pain and straining, and he was unable to void his urine. In the morning, about nine o'clock, his straining efforts were followed by the passage of

blood and bloody urine. Dr. Gibney was called to see him, and, believing that a laceration of the urethra existed, sent for Dr. Little, who found considerable tumefaction and discoloration of the perineum and scrotum. The bladder was distended, and bloody urine dribbled from the meatus. On straining, clear blood, followed by a little urine, was passed. The sound was arrested just opposite the pubes, coming in contact with a substance which at the time was supposed to be bare bone. The patient was etherized, and a free incision was made in the median line of the perineum, through the œdematous tissue, until the urethra was reached. There was no extravasation of blood in the deeper tissues, nor could any laceration of the urethra be detected. The urethra was opened, a catheter was passed, and the bladder was emptied. The urine was discolored with blood. A probe, passed upward into the urethra, came in contact with a hard substance, which, when withdrawn with a forceps, proved to be a rough calculus.

When the patient was first seen, the symptoms, together with the incomplete history, plainly indicated laceration of the urethra. A more careful study of the case showed, however, that, as no blood followed immediately after the injury, but not until several hours later, while the boy was making some straining efforts to evacuate the bladder, it was plainly due to the passage of the calculus through the urethra, and not to the original injury. The patient made a good recovery in the course of six weeks after the operation, a good-sized instrument passing into the bladder without any obstruction. On inquiry, Dr. Little found that the boy had suffered from symptoms of stone for nearly two years, but, considering the size and the rough surface of the calculus, they had been very slight.

(To be concluded.)

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of March 13, 1884.

The President, Dr. B. F. WESTBROOK, in the chair.

DISEASE OF THE AORTIC, MITRAL, AND TRICUSPID VALVES.—THE PRESIDENT presented the heart of an unmarried woman, twenty-seven years old, who had suffered from aortic, mitral, and tricuspid stenosis and regurgitation. She was a bat-trimmer, who, ten years before her admission into St. Mary's Hospital, had an attack of rheumatism, and had since frequently suffered from wandering rheumatic pains. In April, 1883, she had a very severe attack, which was followed by great weakness, constant dyspnoea, cardiac palpitation, pain in the præcordia, and œdema of the lower extremities. There were also several attacks of syncope. When admitted, September 25, 1883, she was weak and pale, the feet and legs were œdematous, but not as decidedly so as they had been at times, and there was a small quantity of fluid in the peritoneal cavity. The dyspnoea was constant, the cough very troublesome, the pulse small, weak, and intermittent. She was obliged to remain in bed most of the time. The urine was slight in quantity, which was partly due to her taking very little nourishment; it contained a trace of albumin, but no casts were discovered. The apex-beat was in the sixth interspace, an inch and a half to the left of the nipple. It was weak. A double aortic murmur was easily made out. A mitral systolic bruit, transmitted into the axillary region, was also very easily detected. There was a presystolic murmur heard over the anterior surface of the heart, supposed to be connected with the mitral valve. But, in addition to these, a sound was heard along the left edge of the sternum, extending from the conus arteriosus downward to the inferior border of the heart, the rhythm of which could not be determined, owing to the rapid and exceedingly irregular action of

* "Gaz. des hôp.," No. 44, 1867, p. 572.

the heart. Three or four weeks subsequently, when the heart was acting more slowly and regular, the rhythm of the last-mentioned murmur was decided to be diastolic; and, on this account, together with the locality in which it was heard, it was thought to be indicative of pulmonic regurgitation.

The condition of the patient was but little affected by drugs, though both digitalis and convallaria did at times appear to have some beneficial effect. On December 1st Dr. Harrigan tapped the abdomen and removed about a gallon and a half of straw-colored serum, after which she felt better for a week or two. But the ascitic fluid reaccumulated, and on the 29th the tapping was repeated, and six quarts were removed. On January 8th she began to vomit incessantly. This continued with very little relief from the standard remedies, and she finally expired on the 11th.

Autopsy, by Dr. J. H. HUNT.—General appearance as described above. *Thorax*: The lungs were exceedingly small, not over half as large as those of an average adult. This was partly due to collapse of the lower lobes from accumulation of fluid (serosity) in the pleural sacs, each of which contained about a quart. There was very little bronchitis, and the lungs were not oedematous. The heart was large and round. The aortic and mitral orifices were very much contracted, the cusps amalgamated, and the valves incompetent. The mitral constriction was of the button-hole variety; the orifice would barely admit the handle of a scalpel. The tricuspid valve was thickened and the orifice narrow and funnel-shaped. It would admit one finger only. The pulmonic valves were unaffected. All the cavities, except the left ventricle, were dilated. The abdominal organs showed the lesions of chronic venous engorgement.

The case was interesting from a clinical and from a diagnostic point of view. The existence of disease of the valves of the right heart, always difficult and usually impossible of diagnosis, was evident; the difficulty was in deciding what valves were affected. The general symptoms would rather have pointed to trouble at the tricuspid orifice, for, with the amount of valvular disease present upon the left side, and the weak and irregular action of the heart, we should expect to find hæmoptysis, the most marked dyspnoea, and pulmonary oedema. But there was no history of hæmoptysis, no râles were to be detected on auscultation, and the dyspnoea, though pronounced and constant, was not nearly as great as was frequently seen in cases of mitral disease. Neither was the pulmonary second sound, heard at the left of the sternum, markedly accentuated. These circumstances would favor the view that there was some lesion of the right heart which prevented the access of blood to the lungs. Such a lesion would either be pulmonic stenosis, or tricuspid disease. But the rhythm of the murmur heard at the left edge of the sternum, which was diastolic so far as could be judged with the heart acting irregularly, seemed to decide the question in favor of the pulmonic regurgitation. There had been some discussion as to the existence of a diastolic murmur with stenosis at the auriculo-ventricular orifices, but the possibility of it was admitted. In this case there could be no doubt that either the mitral or the tricuspid stenosis had given rise to a murmur which was diastolic in its rhythm.

FIBROID DISEASE OF THE UTERUS WITH MARKED DISEASE OF THE HEART.—Dr. A. J. DOWER presented specimens, and related the following case: A married woman, thirty-six years old, called at his office, May 8, 1883, with the history that, for three or four months before, she had had partial amenorrhœa, with rachialgia, uterine colic, and, for a period of six weeks, tenesmus. Physicians who had examined her had told her that she was pregnant. As the symptoms continued, and as she was losing ground constantly, on consultation they thought it advisable to empty the uterus. A sea-tangle tent was introduced, but, al-

though some of the symptoms were relieved, including the leucorrhœa, the attempted abortion was not successful. After a short interval she was examined again, and again told that she was pregnant.

After hearing this history, Dr. Dower made a digital examination, and found the uterus enlarged to about the size proper to the third or fourth month of intra-uterine pregnancy, tender to the touch, and very hard. He told her he thought she was pregnant, and would probably miscarry in a short time. As she was anæmic and had dyspnoea, he examined her heart, and found that she had mitral stenosis and aortic regurgitation, also that the area of cardiac dullness was increased in both directions.

May 13th she went to New York, and on her return was taken with a single marked chill. He saw her the next day, and found that she had lobar pneumonia and slight pleurisy. The breathing was labored and frequent; the temperature was 102° F.; the pulse could not be counted then, owing to the very rapid action of the heart. Morphine and atropine were given hypodermically, and four hours of sleep were thus procured. The following day he asked Dr. Charles Jewett to see the patient with him. After hearing the history and making an examination, Dr. Jewett also came to the conclusion that the patient was pregnant, and, considering the marked organic cardiac disease, with the lung trouble, he anticipated an early abortion.

In a few days Dr. Jewett saw her again with Dr. Dower, when, considering all the facts in the case—that she was losing ground from hæmorrhage, etc., that there was such irritability of the stomach that she had to be nourished by the rectum, and that there was such extensive disease of the heart and lung—Dr. Dower suggested the removal of the uterine contents as the only means of preserving life. Dr. Jewett concurring in this view, Dr. Dower requested him to operate, which he did, dilating the cervix with Hanks's dilators and removing some placental debris (as was supposed at the time). While using the curette, he brought it in contact with a hard mass, and it was only then that the suspicion was aroused that she might have an intra-uterine tumor, either with or without pregnancy. The patient being very weak, it was deemed best to desist from the operation. The hæmorrhage ceased, as well as the vomiting, and on the 25th the patient took food *per vias naturales* for the first time, and felt very much better. The lungs began to clear up nicely, and gave her but little trouble. She improved daily until the morning of the 30th, when she was taken with sudden precordial pain, and died in a short time.

Autopsy, forty-eight hours after death, by Dr. W. J. BRANDT, present Dr. Jewett and Dr. Dower.—The body was fairly nourished, the abdominal fat being about an inch thick. The head was not opened. There was passive serous effusion in both pleural cavities, about equally distributed. There was a moderate amount of consolidation of the left lung, the right lung being normal. There was eccentric hypertrophy of the heart, with marked mitral stenosis and dilatation of the left auricle. The mitral leaflets were of leathery toughness and opaque; they led down to an opening that only admitted the little finger easily. The infundibulum and the cavity of the auricle were dilated to the size of a closed fist. There were evidences of recent endocarditis near the opening of the auricular appendix, with some roughening and deposit of fibrin. The auricular cavity was filled with soft, dark clot, not of an ante-mortem character. The muscular substance of the auricle was much attenuated. The aortic valves were roughened, thickened, and retracted to a moderate extent. The tricuspid valves were also markedly contracted and thickened. The uterus was retroverted, slightly flexed, and excessively rigid to the feel. At the fundus there was a small pedunculated subperitoneal fibroma, and several fibrous growths were felt imbedded in the walls of the organ,

each about as large as the one first mentioned. On opening the cavity, a large, pedunculated fibroma was seen growing from the left cornu. All the tumors were of nearly cartilaginous hardness, and presented no signs of activity. The mucous surface was smooth and hard. The uterus as a whole was increased in length. The os uteri was closed. The ovaries were normal. The ligaments were relaxed. The bladder was distended with urine. No microscopic examinations were made.

STRUCTURE OF THE URETHRA, WITH SECONDARY DISEASE OF THE BLADDER, URETHERS, AND KIDNEYS.—Dr. GEORGE V. CONVERY gave the following history of the case, as kindly furnished by Dr. Tieste, junior resident surgeon to St. Mary's Hospital:

L. C., aged fifty-three, born in Ireland, married, a laborer, was admitted January 11, 1884. When about twenty-five years of age he contracted a gonorrhoea, which, he says, was not properly treated. There was a purulent discharge from the urethra for some time, which gradually became thinner, and so continued for several years, when it stopped "of its own accord." After this he noticed that he passed a smaller stream, which of late years has been very fine, the urine dribbling away at times. About three weeks ago he saw a few drops of urine coming out through a fistulous opening in the scrotum, near its junction with the penis. This led him to apply for admission. Since then another opening has appeared lower down. There is a purulent discharge from these openings mingled with the urine. He was put upon the use of iron and quinine, to prepare him for operation.

January 17th.—He was anesthetized, and an examination was made. The circumference of the penis was a little over three inches and a half, corresponding to a urethra of 34.5 (Fr.); the meatus measured 28 (Fr.). A sound passed two inches and a half and was arrested. Only a filiform bougie could be passed through this stricture, and, after injecting the urethra with oil, and consuming half an hour in careful manipulation, one was finally passed into the bladder. Over this as a guide, Gouley's smallest tunneled sound was passed with difficulty through several constricted points and into the bladder. Careful attempts were now made to dilate the deeper portions of the urethra with Thompson's divulsor, so that the urethrotome might be passed and the operation completed, but unsuccessfully. On consultation with his colleagues, Dr. F. W. Rockwell decided upon external perineal urethrotomy as the only means of relief, although the possibility of serious renal disease was recognized. Therefore, the smallest tunneled sound was passed again as a guide, and the usual median incision was made. The perinæum was dense and cartilaginous, but the urethra was reached without much difficulty, and the deepest stricture, at four inches and a half, divided. After dilating with Thompson's divulsor sufficiently to introduce an Otis's urethrotome, the anterior stricture, at two inches and a half, and a deeper one, at three inches, were divided, and a No. 34.5 (Fr.) sound was passed into the bladder. Ten grains of sulphate of quinine and a quarter of a grain of sulphate of morphine were given, and the patient was put under the same treatment as before the operation.

18th.—The parts are washed night and morning with carbolized water. Liquid diet is given, including milk, beef-tea, and milk-punch. The urine passes entirely through the wound. A plug is left in the meatus.

19th.—A little urine has passed through the urethra.

20th.—There are no bad symptoms.

21st.—Dr. Rockwell passed a No. 33 (Fr.) sound. There has been no chill.

22d.—The wound is looking well.

24th. A No. 33 (Fr.) sound was passed.

25th.—Dr. Rockwell passed a No. 34.5 (Fr.) sound. There is slight diarrhoea. Ordered a two-grain opium suppository. The urine still passes mostly through the wound. The patient is weaker.

31st.—The bowels have not moved since the suppository was given, and he has no appetite. He takes milk-punch every two hours. He passes but little urine. Cups are applied over the kidneys, followed by a poultice of digitalis leaves. He is very weak and breathes stertorously, and the temperature is below normal this evening.

February 1st.—The urine is still scanty, and the cups and poultice are again applied. Ordered ten minims of tincture of digitalis every two hours. This morning he vomited a very offensive, thick, green fluid, the bowels moved involuntarily, and he died comatose at 2.45 P. M.

Autopsy, by Dr. HUNT, two hours after death.—The body was somewhat emaciated. The heart extended to the sixth intercostal space, and there were old pericardial adhesions on all its surfaces. The left ventricle was full of blood; the right one was collapsed. All the valves were thickened from old endocarditis. The lungs, the liver, and the alimentary tract were normal. The left kidney was large and white, the capsule peeling off readily. The organ was covered with cheesy masses about as large as pepper-grains. The pelvis and the ureter were much thickened and dilated. The right kidney was larger than the left one and more thickly covered with cheesy nodules, and here they were confluent. Several small ulcers were found on the cortical surface of this kidney. On section, the right kidney showed the pelvis ulcerated and full of a dirty, grumous-looking fluid, about an ounce in amount. The ureter on this side was about half an inch in diameter, and much convoluted. The bladder was very much thickened, its mucous membrane was greatly hypertrophied, and, from the contraction of the viscus, was thrown into folds so prominent as at first sight to look like calcareous deposits. The bladder contained a small quantity of fluid, of the same character as that found in the right kidney. The urethra was exceedingly tortuous and indurated. The perineal wound showed nothing abnormal.

Commenting upon the case, Dr. Convery spoke as follows:

"Without taking up too much of your time, it is my desire to-night, not to present a specimen of great surgical interest to a pathological society, but, instead, while giving all present the benefit of the case as a surgical one, to lay particular stress upon the morbid conditions secondary to or resulting from the urethral contraction. And, in discussing these morbid conditions, my aim shall be to follow, if possible, the retrogression of the somatic elements of the several organs; to show how, from the interruption to the flow of urine, the urinary organs became affected with functional arrangements, derangements that in turn produced textural lesions, until finally a condition resulted such as is shown in these specimens.

"The determination to follow the disease process from the beginning makes it necessary that we should determine where, after the interruption to the flow of urine, the effect of such interruption was principally felt. Did the obstruction to the flow of urine first cause a dilatation of the bladder and urethra, and then the pelvis of the kidneys, finally ending in inflammation and suppuration? Or did there occur a condition of hyperæmia at the neck of the bladder from the straining in the endeavor of the patient to void his urine, coupled probably with an old gleet and perhaps decomposing secretions of the prostate and that quantity of urine that almost always remains in the bladder when an obstruction exists, and, on the continuance of these conditions, the hyperæmia becoming an inflammation that ended in thickening of the vesical walls and ureters, and ultimately in inflammation and suppuration of the pelvis of the kidneys? This view of the production of the secondary disease is the most feasible.

"In this case, having an inflammation at the neck of the bladder in conjunction with the urethral strictures, giving numerous calls for micturition and great increase in the contractions of the muscular fibers to overcome the obstruction, hypertrophy of those fibers ensued; while from stagnating urine, or from contamination of decomposing urethral and prostatic secretions, the whole mucous membrane became affected. It became engorged with blood, there was increased energy in its histological elements, and consequently there was a great increase in the number of its cells, causing it to become much thickened and protruding as large folds or ridges.

"The hypertrophy of the muscular coats of the bladder was

a compensatory one, analogous to the hypertrophy of the muscular walls of the heart, that occurs in diseases which cause an obstruction to the flow of blood through the different orifices. If the patient had lived, and his strictures had continued as they were before the operation, his bladder would have in time presented another appearance; for muscular hypertrophy will go on to a certain point, and, having reached that point, will become stationary; if excessive work be put upon the hypertrophied muscular fibers, they lose their tonicity, and, becoming infiltrated with oil globules, undergo the phenomenon of fatty degeneration.

"The muscular fibers of the bladder interlace with one another, and around the intersecting points are spaces devoid of muscular covering. As the bladder distends, these spaces become more marked; and, as between the ridges of the mucous membrane are depressions which correspond with the bare spaces between the muscular fibers, diverticula or pouches are formed.

"From the obstruction in front, and want of contractile power behind to overcome the obstruction, the bladder would have become gradually distended, and, finally, a weak point would have been found, and, from the constant or nearly constant hydrostatic pressure, one of the pouches would have given way before the strain, and would increase in size until, instead of this small contracted bladder, we would have found, protruding from some part of the vesical circumference, a sac varying from the size of one's fist to that of a child's head.

"Regarding the ureters, from the small quantity of muscular or elastic tissue in them, very slight obstructions cause their dilatation; especially is this so if any inflammation of the mucous membrane exists, which paralyzes the contractile coat.

"In some cases the ureter may even attain the size of the small intestine (Rokitansky). With this dilatation we have hypertrophy of its coats, and, as it is increased in length, instead of being straight, it becomes coiled or bent.

"We have now, though perhaps in a cursory way, gone over the pathological physiology of the morbid conditions shown in this bladder and ureters; and it now remains for us to discuss those causes that lead to the changes shown in the kidneys.

"In the beginning, the obstruction to the flow of urine caused a certain damming back, and, with the dilatation of the ureters, we had also a dilatation of the pelves of the kidneys. Furthermore, this dilatation is greater than if the ureter was completely ligated. For, if the ureter was completely ligated, we would have a certain amount of dilatation, and then the hydrostatic pressure would become equal to the blood pressure and an equilibrium would be established; but in this case the pressure of the blood would endeavor to overcome the backward pressure, and the result would be, that to the already over-full pelvis another amount of urine would be added, yet not enough to equalize; the patient would then be called upon to micturate, and, upon the emptying of his bladder, the pressure in his renal pelves would suddenly be taken away, and the blood pressure in his renal vessels would be increased. So from hour to hour and day to day the equilibrium sought for could not be found, and the dilatation would go on.

"While this condition was going on in the pelves of the kidneys, in other parts another pathological phenomenon was taking place. For a moment looking at the physiology of the kidney, we find that the secretion of urine is dependent on the blood-vessels and certain parts of the kidney. These parts of the kidney are the Malpighian tufts and the uriniferous tubules.

"A system of capillary vessels enters the expanded portion of urinary tubules known as the Malpighian capsule, and the watery element and some salts of the blood are exuded, and trickle into the convoluted portions of the tubules. In a second

system of capillaries, surrounding the tubules which already contain a thin alkaline fluid, we have a membrane formed by the wall of the capillary and the delicate membrane of the tubule, a dense fluid on one side and a thin saline one on the other, conditions favorable for osmosis. And this osmosis takes place: some of the water given off in the Malpighian tuft is reabsorbed by the blood, and in its place the products of destructive metamorphosis go into the tubule, admixing with the water there, which becomes concentrated and is, in a word, urine. Besides this simple physical process in the elaboration of urine, a most important part is played by the epithelium lining the tubules.

"Heidenhain injected into the blood of animals indigo-carmin; he removed the kidneys at different periods after the injection, and examined them minutely. In not a single case did he find any indigo-carmin in the Malpighian capsules, but the epithelial cells lining the uriniferous tubules were filled with it.

"If we now consider for a moment, we shall see that, in such a case as the one I present, an immense amount of work was put upon the Malpighian tufts by the differences in the pressures, before and behind; that, from the sudden influxes of blood when the hydrostatic pressure was relieved, there were increased osmotic action and increased evolution of the epithelium of the tubules, so that the elaboration of certain elements might keep pace with the secretion of others; and that the epithelial cells were thrown off in an excess, and, not being carried away as rapidly in proportion, excited a peculiar form of inflammation stopping short of suppuration, and known as *anæmic necrosis*, or caseous degeneration. Little islands thus degenerated became the foci for degenerations of the connective tissue, which became affected with a like inflammation, until we have nodules deposited thickly over the whole renal surface.

"As for the ulcers, they may have been due, possibly, to septic emboli, but probably were the result of a breaking down of some of the cheesy nodules. The suppuration and ulceration of the renal pelvis was the result of decomposition of the urine in it, after inflammation, or possibly, through the urinary fistulæ or perineal wound, bacteria may have found their way, as is the opinion of Coats.

"If such was the case, they may have been the cause of the ulcers before attributed to a simple breaking down, and to reach the location of which they would travel up the uriniferous tubules."

Dr. GEORGE R. FOWLER referred to the fact that complete retention by stricture of the urethra was not necessarily present in every case of extravasation of urine and consequent urinary fistula. In the class of cases alluded to, the retention immediately preceding the extravasation was not due to a tight stricture, but to a swelling of the peri-urethral connective tissue, the result of a folliculitis occurring just behind and beyond a comparatively slight contraction of the urethral caliber. In such a case, ulceration of the follicle followed the folliculitis; the urine, not flowing freely past the point of ulceration because of an obstruction, slight though it might be, beyond the point, when the folliculitis occurred, slowly undermined the edges of the ulcer until the underlying connective tissue was opened into. Then followed cellulitis, swelling of the tissues, and retention. This latter condition, if not quickly relieved, led to further extravasation from the point of original ulceration, which in its turn increased the cellulitis. The course to adopt in such an emergency was obvious. It consisted in promptly relieving the retention, incising the tissues that were boggy and sodden and already inflamed, opening directly into the urethra in order to accomplish this, and then, with the divulsing urethrotome or some similar instrument, making sure that the entire urethral caliber was equal in size to that of the largest part of the membranous portion. Referring to the class of cases in which the stricture

preceding the retention was the result of a blow upon the perineum, attention was called to the certainty with which stricture followed such severe blows. This could be easily accounted for when it was considered what a complete counter-resisting force was offered by the pubic arch and the tense triangular ligament, and, consequently, what damage must be inflicted in this way. In this class of cases, stricture was quite certain to follow sooner or later. The urethra upon the vesical side of the coarctation became funnel-shaped, with its base toward the bladder; the urethral walls became more and more attenuated, owing to the damming back of the urine, while, *pari passu*, the bladder-walls became thickened more and more. In such a case but one thing could finally happen: the force from behind became more powerful, while the power of resistance along the dilated urethra became less and less able to bear the strain. A slight abrasion or superficial erosion at the site of a follicle or not, as the case may be, marked the spot where the wall of the urethra must finally give way.

The miseries of a man the subject of urinary fistula were indescribable. There could be no question as to the propriety of attempting relief in the class of cases under consideration, those in which even organic changes had occurred in the kidneys. In conclusion, Dr. Fowler related several cases in which he had succeeded in re-establishing the patency of the canal and in which the patient lived in comparative comfort for several years, despite the existence of organic disease of the kidneys as attested by the existence of albuminuria and the presence of casts in the urine.

H. N. READ, M. D., *Editor for the Society.*

Reports on the Progress of Medicine.

SURGERY.

By CHARLES B. KELSEY, M. D.

"GANGRÈNE GAZEUSE FONDROYANTE."—Dr. Trifaud ("Rev. de chir.," Oct., Nov., Dec., 1883) has published a careful and exhaustive study of a peculiar form of gangrene which has received many names, among which is the foregoing. The article is based upon one hundred and twenty-five cases, twelve of which were his own.

Definition.—"Gangrène gazeuse foudroyante" is a specific, infectio-contagious affection, having invariably a special origin. It is characterized, clinically, by a disorganization rapidly invading all the tissues with excessive premonitory pain at the point of inoculation, by progressive œdema and emphysema, a bronze color of the skin, extreme dyspnoea, fever of very short duration, etc. From an anatomical point of view, it is distinguished by the constant presence in the wounded region of a special microbe, inoculable in a series, which at first multiplies *in loco*, to subsequently spread through the whole organism.

Synonyms.—The multiplicity of names used to designate this affection has not tended to simplify its study, and none of them are now satisfactory, because of the more precise ideas which are at present held as to its nature. Among them are the following: "Emphysème gangréneux," or "empoisonnement traumatique" (Chassaignac), "érysipèle bronzé" (Velpeau), "pneumohémie putride" (Maisonnette), "gangrène foudroyante" (Maisonnette and Frery), "emphysème du moignon" (Salteron), "infection putride aiguë" (Perrin), "gangrena invadente" (Bottini), "septicémie gangréneuse aiguë" (Moraud), "gangrène foudroyante traumatique" (Jubin), "œdème aigu purulent" (Pirogoff), "pneumophlegmon" (Fischer), "septicémie

aiguë à forme gangréneuse" (Terrillon), "gangrène galopante" (Gosselin), and "gangrène gazeuse" (Mollière). Most of these names perpetuate an error, as will be shown, but, in order not to add to their number, the author adopts that of Mollière, at the same time declaring the expression "septicémie gazeuse foudroyante" to be more exact.

The history of this affection may be divided into four periods:

1. One finds here and there in the annals of surgery a few observations which appear to relate to the disease and which have been reported because of some interesting fact, such as the rapidity of their evolution or their extreme gravity.

2. From 1836 to 1870, according to the predominance of such or such local symptom, surgeons considered each of these as a particular and distinct complication of wounds (bronze erysipelas, primitive emphysema, etc.); no attempt to correlate these divers symptoms was made; they were not yet looked upon as the different manifestations of a single disease.

3. Since 1870 acute gangrenous septicæmia has been considered a distinct morbid entity, due to a general intoxication from the entrance of a septic vibrio into the body. It is a clinical variety of septic pyæmia, manifesting itself ordinarily by the bronze color of the skin, œdema, emphysema, etc.

4. "Gangrène gazeuse foudroyante" is an absolutely specific disease, always having for its origin an agent absolutely unique, distinct from the septic vibrio, and inoculable in a series. This complication, at first local, only affects the economy secondarily.

Symptomatology.—The prodromic phenomena have not the value which most authors have been inclined to attribute to them. The most important local symptoms are: spontaneous pain at the point of inoculation, subcutaneous œdema and emphysema, analgesia and increase of temperature in the part affected, the bronze color of the skin, and its rapid death. The general symptoms are less characteristic, manifesting themselves by the sinking of the patient, the premonitory dyspnoea, the acceleration of the pulse, and the fall of temperature soon after the appearance of the affection. The disease may appear in two different clinical forms. At first a local disease, it becomes generalized with greater or less rapidity. 1. A progressive general intoxication. 2. A rapidly developed (*foudroyante*) general intoxication. It should be considered as an unfortunate complication of wounds. It appears generally from the first to the third day after the injury. The gangrenous process always begins in the wound, and has an excessively rapid march, ascending without arrest. Its medium duration is from thirty to fifty hours. Without surgical interference, its constant termination is death. It has no seat of predilection, but may begin in any part of the body.

Pathological Anatomy.—The decomposition of the body is so rapid that a post-mortem examination, to be of any value, must be made very soon after death. The cadaveric changes are peculiar to the disease, differing as much from those of septicopyæmia on the one hand as from those of the different varieties of gangrene on the other. The blood is extremely diffuent, the tissues in the region of the wound are infiltrated with gas and fluids, and the presence of bacteria in process of evolution more or less perfect may easily be observed. The disease is a parasitic affection, and therefore contagious and infectious. The existence of a specific germ, far from being in contradiction to clinical observation, agrees with it perfectly. It is not an intoxication or a poisoning, but an infectious disease in which the blood and humors have virulent properties, as experience has demonstrated. The infection is not primarily general; the microbes develop at first locally at the point inoculated, thence to spread into the entire organism, and thus are explained the cures wrought by prompt surgical interference. Their way of propa-

gation is not yet very well understood. They seem at first to invade the neighboring tissues, then to penetrate into the circulation, either by the lymphatics or by the veins. There, plunged into a medium full of oxygen, they seem to develop imperfectly and are only found in the shape of spores; but, when they are deposited by the blood in other tissues more favorable for their development, they are seen to recover all their vitality, to multiply immensely, and to develop with rapidity. Thus is explained the rapid appearance of gangrenous spots at a distance from the wound which is the point of entrance, without alteration of intermediate tissues. In these cases the infection, at first local, is generalized with rapidity as a result of the rapid penetration of the germs into the circulatory current and their transportation to other parts of the body, into tissues not rich in oxygen, and therefore favorable to their development. By decomposing the albuminoid matter of the cellular tissue into which they penetrate, these ferments produce the formation of gas which is observed in the disease. As a result of their irritative action on the vaso-motor nervous apparatus of the invaded part, the œdema is explained which rapidly infiltrates the parts, the fluid being sero-sanguinolent.

Ætiology.—The inoculation and development of a specific germ are the only determining causes of the disease. The predisposing causes on the part of the wound are the existence of aufractuosities in a wound by crushing, and its recent production. On the part of the system, chronic alcoholism seems to be the sole predisposing condition. Crowding in hospitals provokes the epidemic development of the disease, and contaminated dressings are a very powerful agent in its production.

In *diagnosis*, the disease must be distinguished from certain grave forms of spreading moist gangrene due to compression or attrition of the tissues, to vascular and nervous lesions, etc. Their nature, their symptoms, and the prognosis are all different. It must not be confounded with diffuse phlegmon, acute purulent œdema, bronze erysipelas, gangrenous lymphangitis, dissecting wounds, infectious myositis, symptomatic charbon, or hospital gangrene.

Prognosis.—Although the disease may be considered as generally fatal, prompt surgical interference may save the patient in a few cases. The form designated by the title *intoxication générale foudroyante* is the most dangerous. If the temperature exceeds 41° C., or if it falls suddenly below the normal, any operation is useless; the patient is already deeply intoxicated. The farther the point of inoculation is situated from the trunk, the better are the chances of success. Chronic alcoholism leaves little for the surgeon to hope.

Treatment.—All medical treatment is powerless to arrest the progress of the disease. Large incisions are entirely powerless, as well as continued irrigations of alcohol and water, or phenic acid. Energetic cauterizations, deep and repeated, with the hot iron, extending beyond the infiltrated tissues, should be employed when amputation is impossible. Successes have been obtained by this method. The only treatment which generally offers any chance of success is amputation. The operation must be done as soon as possible, and in tissues not yet infiltrated. All the rules of the antiseptic method should be strictly observed. Alcoholic stimulants, including champagne, should be given in large doses. For prevention, the wounded should be completely isolated, amputated parts should be removed at once, the instruments used should be passed through the flame of an alcohol lamp, the different dressings should be burned, and the bedding should be disinfected with the vapor of sulphurous acid, the only efficient agent against the gaseous microbe.

THE AGGRAVATION OF DISEASES BY TRAUMATISM.—M. Verneuil (*Ibid.*, Jan., 1884) has recently advanced the idea that even the simplest injuries inflicted upon a person already sick

may aggravate the pre-existing affection and accelerate its course to a fatal termination. He believes that this effect is very evident and is not infrequently seen, and he gives as an example a case of latent cancer of the liver, in which a simple fracture of the thigh caused rapid aggravation of the disease and death in fifty-two days, although the fracture did perfectly well. As to the causes of the aggravation, he as yet expresses no opinion, but he believes the fact to be incontestable.

THE ANTISEPTIC INCISION OF HYDROCELE.—Dr. Julliard (*Ibid.*, Feb., 1884) reports fifty-four cases of the cure of hydrocele by an antiseptic incision. He performs the operation without any attempt at anæsthesia, either general or local, and does not find that the patients complain of any great amount of pain—not so much as is often the case with injections of iodine. The operation is short, the incision into the skin is alone painful, but it only lasts a few seconds, and the rest is no worse than the injection of iodine. Before the incision the part should be carefully disinfected with a very mild phenic-acid solution—one not sufficiently strong to irritate the skin. The operation is not one in which purulent infection is particularly to be feared, and, in addition to the weak antiseptic solution, the author uses only an abundance of warm water, which favors the operation by relaxing the parts. The region being thoroughly cleansed, the skin is drawn tight over the tumor and a long incision is made from above downward. His reasons for preferring a large to a small incision are: 1. The large incision is the only one which permits a proper inspection of the cavity of the tunica vaginalis, and this inspection is one of the chief advantages of the operation. Generally there will be found in the tunic or upon the testicle, cysts, foreign bodies, and exudations of different kinds, which require removal, and this can only be done by a large incision. 2. The large incision is the only one which allows of the resection and suture of the tunic to properly adjust it to the testicle and cord—an important condition from the point of view of the ultimate obliteration of its cavity. 3. The large incision heals as easily as a small one, if not more so.

The incision into the skin having been made, it is carried layer by layer down to the tunica vaginalis. Whatever bleeding there may be is controlled by pressure and torsion rather than by ligature.

The tunica vaginalis having been reached, a small incision is made into its upper part, into which the finger is introduced, and this is then enlarged with scissors till it equals in size that of the skin. The testicle and the inner surface of the tunic are then carefully inspected. Almost always there will be found either little cysts, foreign bodies, loose or attached, bloody or pseudo-membranous exudations, or calcareous or cartilaginous plates. The cysts are oftenest observed upon the testicle or the epididymis, more rarely on the tunica vaginalis or the cord. The foreign bodies, exudations, etc., should be sought for in every part. The cysts are excised with scissors, the exudations are removed with sponges, or, if necessary, with the curette. In a word, the cavity is freed of all the abnormal productions which it contains. This *toilette* should be made with care and with the use of the antiseptic solution already referred to. A strong disinfectant is absolutely proscribed, as it irritates the surfaces, augments the oozing, and interferes with primary union. From an antiseptic point of view it is useless; the spray answers every purpose, and this is used during the whole operation. The *toilette* being finished, the tunic is resected to an extent necessary to permit of the remainder just covering the testicle and cord, and it is then sutured. The sutures are of fine catgut placed 1 cm. apart. Thus complete apposition of the parietal and visceral layers is obtained. Care must be taken not to close the tunic until all oozing has been stopped. Cold may be used to accomplish this; the cavity may be filled with sponges; pressure

may be applied in any way, but strong applications and the cautery should be avoided as far as possible, lest they interfere with primary union. The use of drainage-tubes is not recommended. They are not necessary, and they absolutely prevent the union which is most desired.

After completing the suture of the tunic, that of the skin is performed. This is done with catgut, and a drain is placed in the lowest part. The dressing should be antiseptic, compressive, and unirritating to the scrotum.

This operation is compared especially with the injection of iodine. The latter is brilliant from its simplicity, but it exposes to inflammatory consequences the intensity of which can not be predicted; it sometimes fails, and more often it is followed by relapse. The antiseptic incision never causes violent inflammatory reaction, it is not more painful than the injection, does not call for anæsthesia, the wound heals as quickly, *it never fails*, and when well done there can be no possibility of relapse. Its only fault is that it is slightly more complicated than the injection. The supposed cases of injury to the testicle from obliteration of the tunica vaginalis are as likely to follow the one operation as the other. The author's fifty-four cases are given in full.

THE TREATMENT OF FRACTURE OF THE PATELLA BY WIRING.—Sir Joseph Lister ("Brit. Med. Jour.," Nov. 8, 1883) gives his experience in the use of the wire suture in cases of fracture of the patella, to which he was led by the use of the same treatment in cases of fracture of the olecranon. The treatment is particularly adapted to cases of ununited fracture, and to those in which there is considerable separation of the fragments from the first, which can not be overcome by the usual methods.

The operation consists in cutting down upon the bone by a vertical incision about two inches long, exposing the fragments, clearing out any clots or fibrous tissue which may stand in the way of their approximation or which may be within the joint, and applying a common bradawl in the middle line of the patella, drilling each fragment obliquely so as to bring out the awl upon the broken surface a little distance from the cartilage. Stout silver wire is then passed through the openings, and the fragments thus strung upon it are pushed firmly home, and thus brought accurately into apposition. Before they are brought together the following arrangement is made for drainage: A dressing forceps, with the blades closed, is passed from the wound made into the anterior part of the joint to the most dependent part of the outer aspect of the articulation. It is then forcibly thrust through the synovial membrane, the fibrous capsule, and the fascia, until its point is felt under the skin. An incision is then made with a knife through the skin on to the point of the forceps, so as to allow it to protrude. The blades of the forceps are then expanded so as to enlarge the opening thus made in the deeper structures without the risk of hemorrhage; the drain is seized in the protruding forceps and drawn into the joint. The ends of the wire are now twisted together, bent over, and pressed down into the bone so as not to interfere with the wound. All this is done with full antiseptic precautions.

The wire used is one sixteenth of an inch in diameter. The author has not found it best to use more than a single suture of such wire. It is applied in a vertical plane in the course of the longitudinal incision over the middle of the bone, and, in recent cases, no dissection of the soft parts over the patella is necessary. It seems important that the cartilaginous surface of the bone should be left quite smooth, or, in other words, that the fragments should be left quite level at their lower part. If the awl does not chance to come out at exactly the same level on the two fragments, this is disregarded until they have been strung on the wire, and then, on that side on which the awl has come out too far down, a little of the bone is chipped away

with the awl until the wire comes to be exactly opposite the hole on the other side.

The author reports several very successful cases treated in this way—cases in which a perfect joint was obtained.

A POINT IN INTESTINAL SURGERY.—Mr. R. F. Rand ("Lancet," Dec. 22, 1883) gives a valuable anatomical means of identifying the upper and lower ends of any given piece of small intestine. In those cases where an opening is made into the abdomen sufficiently large to admit the hand, the mesentery may be taken as a sure guide, if the attachment of its root be borne in mind. This attachment runs along the front of the spine in an oblique line from the left side of the second lumbar vertebra to the right sacro-iliac synchondrosis, and corresponds roughly to the long axis of the trunk. Above, it comes into relation with the upper end of the small intestine at the commencement of the jejunum; below, it leaves it at the cæcum. At the spine the two surfaces of the mesentery face right and left; farther out, their arrangement, like that of the bowel, is constantly varying. As we speak of a right and left surface as regards the mesentery, so we may as regards the bowel. It is difficult to identify the right and left sides of the bowel, but those of the mesentery are, at its root, self-evident, for here it is only about six inches in length, while at its periphery it is about nineteen feet. The right and left sides of the bowel having been identified, a knowledge of the upper and lower ends follows as a matter of course. The abdominal cavity having been opened at any point anteriorly, the first piece of small intestine presenting may be seized, its long axis being held in the long axis of the body, and its attached mesentery being pulled out tant from the spine, the hand may be passed, guided by the mesentery, backward to the spine, whence it may be passed upward and downward along its spinal attachment. If the bowel is being held in its true direction, the hand passed to the right of it will be conducted by the mesentery to the right side of the spine, and passed to the left of it, it will be conducted to the left side of the spine. But, should the apparent upper end of the bowel be in reality the lower end—in other words, should the piece be held in the wrong direction—the hand passed to the right of it will follow the twist of the mesentery to the left side of the spine, and *vice versa*. Nothing can be simpler than this in practice, and by it an operator may be saved from unnecessarily handling many feet of bowel to discover the anatomical relations.

THE RADICAL CURE OF UMBILICAL HERNIA.—Mr. Lawson Tait ("Brit. Med. Jour.," Dec. 8, 1884) gives some original ideas on the radical cure of exomphalus and other forms of hernia. The peculiarities of exomphalus—that the omentum is invariably present in the sac, that it is almost always adherent to the inner surface of the sac, and generally irreducible—have stood in the way of subcutaneous operations; and the extreme difficulty of being sure that the intestine is all reduced from the sac before the wires are tightened forms a serious danger in their performance. Another and still greater difficulty is found in the fact that it is almost exceptional to find a single hernial aperture. They are generally multiple.

Concerning the adhesion of omentum to the sac, the author does not agree with Mr. Wood that it would not constitute a serious objection to the operation by ligature, since the presence of an omental plug would contribute to the closure of the aperture, and strangulation of this structure by the ligature may be avoided in its application. The author believes that the retention of a piece of omentum in the ring would be a complete obstacle to the permanence of its closure. Mr. Wood also thinks that the presence of much permanent distension of the peritonæum by fat or from other causes would preclude any attempt at cure by a radical operation, and this in itself removes the great mass of sufferers from any hope of relief. A final

objection to all subcutaneous operations is that the utmost that is gained by them is the union of opposing surfaces of peritonæum, which is not at all likely to resist a stretching force for any length of time.

The author was first led to the operation he describes by being obliged occasionally to operate in cases of strangulated exomphalus. In such cases he has never done what is described as the extra-peritoneal operation, being convinced that it can not be so safe as the operation by opening the sac, and that it leaves the patient after recovery with a larger hernia than before. In eleven such cases he has opened the sac, freed all adhesions, removed redundant and irreducible omentum, pared the edges of the ring, and stitched them together. Every one of the eleven patients recovered. In three cases the cure of the protrusion has been permanent after eleven, eight, and five years, respectively. What has happened in the others he does not know.

Since the time when the author "discarded the superstitions of the peritonæum" he has turned his attention to the radical cure of exomphalus as one of the legitimate advances of his department. He has deliberately opened a number of hernial sacs, at or near the umbilicus, has reduced the intestine, cut off adherent omentum, pared the edges of the ring or rings, stitched them together by a continuous silk thread (which he leaves permanently), and has thus secured complete closure of the sac. Such an operation has had no mortality, and the results so far are all quite permanent. All the patients have been fat, some very fat, and one was pregnant.

He concludes by saying that he has an impression that the radical cure of other kinds of hernia than the umbilical will, by and by, be undertaken by abdominal section. A few weeks ago he removed an ovarian tumor from a woman with a femoral hernia in which intestine was adherent. It was a very easy matter to undo the adhesions, and by means of a handled needle and a silk thread to obliterate the ring in a manner which, he is sure, no operation from the outside could have effected. So much can be done through a two-inch incision that he thinks that in the future, should he be called upon to operate for a strangulated femoral hernia, he would proceed by abdominal section, and complete the radical cure of the protrusion at the same time that he relieved the obstruction.

Miscellany.

THERAPEUTICAL NOTES.—*The Treatment of Diabetes by Douches of Air.*—At a recent meeting of the *Paris Société de Thérapeutique*, reported in the "Progrès médical" for April 5th, M. Compardon alluded to three cases in which he had treated this disease by currents of air directed upon the vertebral column and the neck. In all the cases there was a notable diminution of the amount of sugar excreted with the urine. This amelioration was sustained, and was accompanied by improvement in all the other symptoms. Each douche was continued from five to ten minutes, but we find no mention of the frequency of their repetition, or of the temperature of the blast. The local effects are said to be a blanching of the skin and the formation of a cup-like depression, with a moderate reduction of temperature. After the douche, the skin becomes of a bright-red color, and remains so for three or four hours, during which time there is local sweating.

Resorcin in the Enterocolitis of Infants.—The "Progrès médical" quotes from the "Gazette hebdomadaire des sciences médicales de Montpellier" an abstract of an article, by Dr. Carreras, that appeared originally in the "Gaceta Médica Catalana," on the use of resorcin in the choleric form intestinal catarrh and the enterocolitis of infants. In

the former affection the results were not good, but some marvelous successes were achieved with the remedy in the latter. Eleven cases are reported, the patients' ages ranging from nine months to four years. Three of the infants were fed artificially, and one of these succumbed in spite of the treatment. The ten others presented the sub-acute type of enterocolitis, the symptoms being those that follow the acute form and precede the development of the chronic form. Strict attention being paid to the diet and the hygienic surroundings, resorcin was given every three hours. In three or four cases a strict milk diet gave rise to marked acidity, and bismuth, bicarbonate of sodium, pepsin, and Dover's powder were given in addition to that account. In every case improvement began in from four to six days. Eight of the eleven children recovered, and three died. The recoveries were very slow, with relapses. Dr. Carreras thinks that a remedy which, like resorcin, is at the same time astringent, antiputrescent, antiseptic, febrifuge, and capable of coagulating albuminous matters and modifying the surface of the mucous membrane, may be regarded as of the greatest utility against a disease in which most of the remedies thus far proposed fail.

THE LOUISIANA STATE BOARD OF HEALTH has been reorganized by the election of several new members, and the selection of Joseph Holt, M. D., to be its President. The Board now consists of Joseph Holt, M. D., J. C. Faget, M. D., L. H. von Gohren, M. D., L. F. Salomon, M. D., S. R. Olliphant, M. D., Charles E. Kells, D. D. S., Walter M. Smallwood, Esq., Joseph A. Shakespeare, Esq., and F. Formento, M. D. (resigned).

The following resolutions have been adopted by the new Board:

"Fully recognizing the wisdom of the quarantine laws of this State, the necessity of their rigid enforcement, and the great importance of securing for this Board the confidence of the people throughout the Valley of the Mississippi,

"Resolved, That it is the fixed and irrevocable purpose of this Board to apply quarantine restrictions against all ports where contagious or infectious diseases exist to the limit of the law, and, if necessary, it will advise the total suspension of all communications with such ports while so infected.

"Resolved, That, while we are guarding with sleepless vigilance the outlets of the Mississippi River, we are not unmindful of the dangers that threaten us from the rear. In more than one instance yellow fever has been introduced into this city and State through the States of Texas and Mississippi. All things considered, the least protected sections are the long lines of sea-coast westward in Texas, and eastward in the States of Mississippi, Alabama, and Florida. The approaches from without to this State are through Lake Borgne, the Mississippi River, and Berwick's Bay; these we will guard with sleepless vigilance, and while we are doing that we call upon the authorities of the States of Texas, Mississippi, Alabama, and Florida to exercise a like effective control over the sea-coast in those States.

"Resolved, That, while this Board will maintain its just prerogatives as a department of the State Government, it invokes the co-operation and confidence of any and all organizations at home and abroad that may be laboring to promote or protect the public health.

"Resolved, That, recognizing the great importance of securing the co-operation of the boards of health of other States, and of other health associations wherever situated, and of establishing a condition of absolute confidence, it is hereby made the duty of the President and other officers of this Board to extend to boards of health of other States, and other health associations, unrestricted access to the records and health reports of this Board, as well as the several quarantine stations as at the central office of this Board in New Orleans; and it is hereby further made the duty of the President of this Board to make public from day to day, as may be necessary, the condition of the public health, and he is hereby specially required, in the event yellow fever should be introduced into this city or State, to communicate such fact without delay to the exchanges and commercial bodies in New Orleans, and to the boards of health of other cities and States.

"Resolved, That the co-operation of the several exchanges and commercial bodies of this city is earnestly solicited in the sanitary work of this Board, and in the proper, intelligent, and effective application of the sanitary and quarantine laws of this State.

"Resolved, That, while tendering to other boards and health associations generally, at home and abroad, the courtesies and confidence of this State Board of Health, we solicit the like consideration of the boards of health and health associations of other States, to the end that confidence may not only be reciprocal, but established on a firm and enduring basis.

"Resolved, That, having thus declared our purposes and the policy of this Board, it is expected that no credence will be given, at home or abroad, to any reports respecting the state of the public health in this city or State, that are not sanctioned or verified by the action of this Board, or of its duly appointed officers."

MEDICAL EDUCATION IN GREAT BRITAIN.—In the course of a recent address to the graduating class of the medical department of the University of Glasgow, Dr. W. T. Gairdner, the professor of medicine, made use of the following language: "We by no means regard it [the discipline of the university] as perfect, but we do regard it as an effective, a sound, and a liberal discipline for the future practitioner of medicine. I take you to witness that it is in the main by honest, hard, steady work, and not by what is called 'cram,' that you have been able to pass with credit your examinations in this university. The four years of study through which you have passed have been really what they purposed to be. There have been no such abuses as we hear loudly complained of at the present moment in Dublin—sham lectures, sham certificates, irregular or perfunctory attendance. You know as well as I do that not one of these things would be tolerated for a moment in this, or I believe in any other Scottish university. Further, you know as well as I do that all your practical instruction, whether in the laboratory, the dissecting-room, the hospital, or the pathological theatre, has been, equally with the lectures, a regular, and therefore, we trust, an effective discipline. There has been no indefinite, and therefore valueless, 'walking the hospitals' permitted in the Western Infirmary. If any one has been idle or irregular there, it can not be said that any half-heartedness, or unpunctuality, or want of due control on the part of the teachers, can have been responsible for this; and most probably the idler in question has found his name among those which were not posted in the list displayed a few days ago at the college-gate, and represented by the faces I now see before me. Every step in your training has been carried on deliberately and steadily, from the first enunciation of the processes of a bone or the parts of a flower to the discussion at the bed-side, or in the clinical theatre, perhaps a week or two since, of the very last case admitted to hospital of pleurisy or of locomotor ataxy. And in each of the four examinations by which you have been tested I think I may frankly say that a perfectly genuine and honest effort has been made to do justice to every form of real capacity and diligence among you, and to eliminate those who were either incapable of learning or unwilling to learn in a regular and business-like manner. In the introductory address which I was charged to deliver at the beginning of the winter session, I claimed for the Scottish universities to 'have organized medical study into a regular discipline, at a time when, in England, before the passing of the Medical Act of 1858, the Bob Sawyer and Ben Allen type, or let us say the 'surgery boy' of the 'Times' article which I quoted, was still rampant and practically unchecked. I now claim for them—I, e., the Scottish universities generally, not this university in particular—the steady and progressive development, for more than twenty years past, of practical methods, both of teaching and examination, previously but little understood, and even now very imperfectly followed out by many examining boards. The object of this address is not polemical, and I am very far from wishing to make you medical politicians; but I may be permitted to say that we look with confidence to the Government to see to it that a system of discipline which has done so much for medical education in the past shall not be in any material point injured or subverted by legislation."

SARCOMA IN A CHILD'S SKULL.—In the February number of the "Æsculapian" Dr. A. Jacobi gives an analysis of the literature of this subject, and relates a case which he has met with. He finds that sarcoma of the skull in children is an exceedingly rare affection. His own case was that of a child, nearly four years of age, with a family history in which neoplasms were not altogether unknown, who had a

growth on the right parietal bone for six months. His mind was not well developed. The tumor was removed, and was found to communicate with the interior of the skull. Parts of the cranium were removed, and a portion of the dura mater, from which the tumor seemed to develop, four inches long by two inches and a half wide. The patient died on the eighth day, and the tumor was found to be a spindle-celled sarcoma. The dura mater and the bone contiguous to the tumor were both affected, spindle cells being found in abundance.

THE BITE OF A HORSE.—At a recent meeting of the *Société Anatomique* of Paris, M. Hartmann, an *interne des hôpitaux*, showed a man's thumb that had been bitten off by a horse, all but a delicate cutaneous connection which was divided when the wound was first dressed. The wound presented a large muscular stump, formed by the upper part of the first metacarpal bone, surrounded by contused masses of fleshy tissue, and the outer side of the second, also covered with muscular fibers. When the patient was told to move the thumb, the muscles of the stump were seen to contract. The wound was 10.5 cm. long by 9 cm. wide. On the dorsal aspect the skin was limited by a sharply defined contour, the thumb having been torn away about at the level of the second metacarpal bone; on the palmar aspect it was more contused. With the thumb a portion of the tendon of the extensor longus pollicis 21 cm. long had been torn away.

The report adds that this case seems interesting because: 1. It shows very clearly the double mechanism of wounds by the bite of the horse—by pressure lesions on the palmar side of the hand; by lesions of avulsion on the dorsal side. 2. Injuries of this sort are uncommon. In a paper read by M. Gillette, in 1876, out of sixty-six cases which that author was able to collect there were only four avulsions of the thumb, including three of avulsion of a tendon—two of the flexor and one of the extensor brevis, but in no instance of the extensor longus.

CONGENITAL LIPOMA.—In the "Archives of Pædiatrics" for February, 1884, Dr. A. Jacobi quotes Lancereaux to the effect that lipoma may and does occur congenitally. General obesity is not considered by him as an illustration of lipomatous development. The congenital form is chiefly found in the fingers, especially upon the volar side, and is developed only during the second half of fetal life. Less frequently it is developed upon the occiput, the back, the abdomen, the upper extremities, the calves of the legs, and the dorsal and plantar surfaces of the feet. The general proposition is that lipoma will develop under those circumstances and in those localities in which, under normal conditions, an extensive layer of fat is usually deposited. The growth of such a formation is slower in the adult, with an acquired tumor, than in the infant with a congenital one. The congenital form is oftener diffuse than encapsulated, in which respect it also differs from the acquired form. Five cases are narrated as the sum of the author's experience in connection with this subject. Some of the cases present points of great interest. Additional interest is given to the paper by an appended abstract of the literature of the subject. From this, as well as from the experience of the author, it would appear that the affection in question is a somewhat rare one.

THE VIRUS OF HYDROPHOBIA.—The Paris correspondent of the "British Medical Journal" (March 22, 1884), says: "M. Pasteur, aided by MM. Roux and Chamberland, have made a series of experiments on rabies. In a communication presented to the Académie des Sciences and Académie de Médecine, they state that, when the virus is directly introduced into the circulation, symptoms of paralytic rabies are manifested; but the peculiar noise like barking, accompanied by a state of fury, is absent. The virus has a decided tendency to become deposited in the encephalon and spinal cord; but it is also observed in some peripheral nerves—the pneumogastric and sciatic. It has also been observed in the submaxillary and sublingual glands. Under certain conditions the virus retains its toxic properties."

NARCOTICS AND "CELESTIAL HAPPINESS."—"A sect is said to have been discovered at Rostov, in South Russia, whose object is the poisoning of children by narcotics. It is believed to owe its origin to a woman who murdered her children 'in order to deliver them from earthly suffering, and to procure for them celestial happiness.'"—*British Medical Journal*.

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884,

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE III, PART I.

(Continued From page 461.)

Some Points in Encephalic Anatomy which are not Infrequently Overlooked or Misunderstood.

Porta (Foramen Monroi).—Perhaps no single feature of encephalic structure involves a greater number of morphological considerations or stands more in need of elucidation than the communications between the aulla and the proceliæ; certainly there is none which better illustrates the defects of the current methods of regarding, manipulating, describing, and figuring the brain, and the superiority of the methods advocated in the present course.

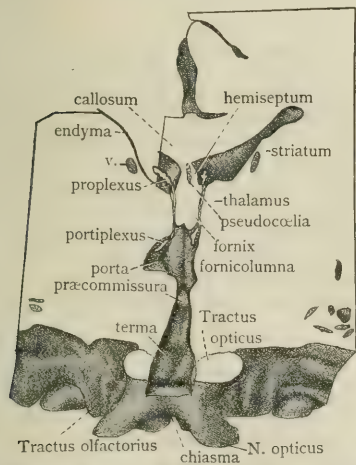


FIG. 54.—CAUDAL ASPECT OF A TRANSECTION OF AN ADULT HUMAN BRAIN AT THE CHIASMA. Drawn by Mrs. Gage. The cellie were anejected. After the section was made, parts were removed so as to display certain features more fully. The mesal cavity opened is the aulla, commonly described as the "anterior part of the third ventricle," or the "middle portion of the Y-shaped foramen of Monro." Ventrad of the precommissure, its cephalic boundary, is the terma, which is more fully seen from the outside in Fig. 51. Dorsad of the commissure are the two columns of the fornix, and between these a narrow cleft bounded cephalad by a part of the terma (see Fig. 14), through which, by accident, may be made a communication into the pseudocoele. On the right the thalamus is untouched, but on the left it has been cut out so as to show the corresponding porta with the portplexus hanging therein.

During the last hundred years the "Foramen of Monro" has been variously and incongruously described and figured

as a single orifice and as two; as a horizontal passage and as triradiate; as oval, semilunar, and nearly circular; as a hole and as a notch; as an independent foramen and as merely one end of the "great transverse fissure"; as both visible and invisible from the meson; as named after two anatomists, father and son, of the same name (which name is spelled in three different ways); and, finally, as having, in the human adult, a purely imaginary existence.

Its existence.—In 1783 Alexander Monro, *secundus*,* in describing the orifices in question, speaks as follows (p. 10):

"The most eminent of the late authors who knew the descriptions of former authors, and had particularly examined the subject, have doubted of or denied such communications of the lateral ventricles with each other, or with the other ventricles, or have so entirely overlooked or missed such communications that, in the figures they have given, they have not ventured to paint any of the places at which it had been said that they were to be found; and, as a proof that there is no natural communication, they have remarked that, in hydrocephalus internus, the water had filled only one of the lateral ventricles."

Since Monro, it is to be feared that many dissectors of the human brain have either failed to observe the orifices at all, or have carelessly confounded them with the artificial communication between the "lateral ventricles" and the "third," which is produced by removing the cerebrum from the subjacent parts. But it seems to have been reserved for a distinguished anatomist and physiologist to exemplify the outcome of imperfect morphological ideas and faulty manipulative methods by a formal and public denial of the existence of the "foramina of Monro."

As reported officially in "Le Progrès médical" for 1879, p. 483, in the "Société de Biologie, Séance du 14 Mai, 1879, Présidence de M. P. Bert," and at a later meeting, June 21, there was read by M. Mathias Duval a paper entitled "De la non-existence des trous de Monro." The following are characteristic selections:

"Sur la foi de tous les traités classiques d'anatomie on admet généralement que les trous dits de Monro font communiquer les troisièmes ventricles latéraux et qu'ils donnent passage aux plexus choroïdes. M. Mathias Duval a fait sur ce point d'anatomie de l'encéphale des recherches complètes, desquelles il résulte que les trous de Monro n'existent pas chez l'adulte. Lorsqu'on trouve sur un cerveau d'adulte une communication entre le ventricule moyen et les ventricles latéraux, cette communication provient d'une perforation artificielle. Chez l'embryon humain, comme chez les animaux inférieurs, les trous de Monro existent réellement, mais ils s'oblitérent plus tard. Enfin, selon M. Duval, il n'y a pas de plexus choroïdes dans le ventricule moyen."

Notwithstanding the reputation of Duval, the dignity of the learned society before which his communication was made, the tacit indorsement of his views by the society and the journals which have printed the paper, and the fact that, so far as I know, no one besides me has publicly protested against them, on the present occasion I shall content myself with briefly enumerating the various methods in which the

* The evidence that the porta was named for the second of the three Monros, and not for his father, as stated by Todd and by Littré et Robin, has been presented in my paper (±).

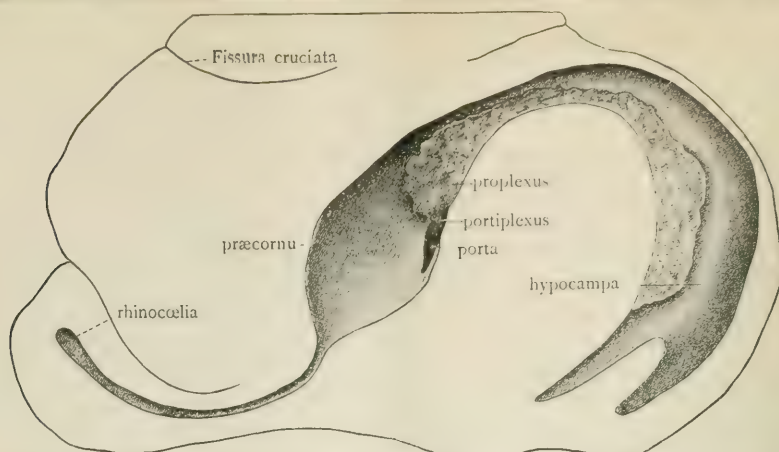


FIG. 55.—PART OF THE LEFT HEMISPHERE OF A CAT; ENLARGED. DRAWN BY PROFESSOR CLEVER. The cœlie were alinjected, and enough of the left hemisphere removed to expose the continuity of the cavities. The shaded portion represents the endymal or entocœlian surfaces, and the cut surfaces are left blank.

Besides the location and form of the porta, the figure shows (a) the continuity of the portiplexus with the proplexus, which is turned up from its attachment along the rim; (b) the non-extension of the proplexus to the tip of the medicornu; (c) the bifurcation of the cornu, which is unusually pronounced in this specimen; (d) the absence of a postcornu; (e) the slender extension of the præcornu into the olfactory lobe as a rhinocele.

portæ may be demonstrated upon the brain of man or of any other mammal, bird, reptile, or amphibian.

Modes of Demonstration of the Porta.—1. *Inflation.*

—If a brain is properly supported, as upon cotton, and air blown cephalad from the metacele, or any other cœlian division caudad of the medicommissure, the hemispheres will be coincidently expanded; or, if it be blown into either procele, the expansion will be produced in the opposite hemisphere, especially near the end of the temporal lobe; if the brain be under a liquid, and the procele be opened, the air will escape as bubbles.

2. *Injection of liquid.*—A colorless liquid serves the same purpose as air, but, if it contains colored particles in suspension, the staining of the cœlian lining will enable the observer to determine the course of the liquid and the non-rupture of the parietes.

3. *Injection of material capable of solidifying into a cast.*—As stated in Lecture II. (this journal, March 1, p. 234), wax casts of the human cœlie were made by Welcker in or before 1878, when he published his figures (1). Prior to my acquaintance with Welcker's paper, with the aid of Professor Gage, I had made plaster casts of the cœlie of a cat and sheep, and the porta of the latter was represented on each side as a narrow neck. These casts were shown at the meeting of the American Association for the Advancement of Science in 1880, and are figured in "Anatomical Technology" (Wilder and Gage, p. 458). More recently, the cœlie of the cat were injected successfully with the three compositions named in Lecture II.

Mesal exposure.—This is the method usually employed, yet it is perhaps the least desirable, for the simple reason that the porta in man, the cat, and mammals generally, is often nearly or quite invisible when the meson is squarely viewed. By looking obliquely, from caudad of the forni-

columna, the porta may sometimes be seen as an interval between it and the thalamus.

Removal of the mesal wall of the præcornu.—As indicated in "Anatomical Technology" (p. 456, Pl. IV, Fig. 16), if the mesal wall of the præcornu be removed by successive thin slices not quite reaching the terma and forniculuma, then a headed bristle or a probe may be passed from the cornu to the aula, or in the opposite direction.

Transverse sections.—If transections are made, they may be thick, excepting in the aulic region (nearly dorsad of the chiasma, where they should be so thin as not to include the cephalic and caudal walls of the portæ within the same slice. The best results are obtained by combining transection with dissection after the plane of the portæ is nearly reached.

Horizontal section of an alcoholic brain.—If either the dorsal or the ventral region of a brain be removed in successive slices, there will be exposed a condition of things more or less closely resembling what is shown in Fig. 7 (Lecture I, this journal, February 9, p. 146). The porta at each side opens from the aula into the corresponding procele. This method is best applied when the cœlie have been alinjected. The only danger is lest the slice at that level be so thick as to include both the dorsal and the ventral limits of the portæ.

Lateral exposure.—The brain is supposed to have been hardened and the cœlie alinjected. The lateral wall of the medicornu is first removed in successive slices, and its course followed by cutting obliquely until the præcornu also is opened. The striatum is removed with the lateral wall of the præcornu by an incision just laterad of its plane of junction with the thalamus. The porta then appears as a perfectly distinct orifice, through which a bristle may be passed

into the *aula* and *diacele*, and, if the opposite side be treated in like manner, into the corresponding *cella*.

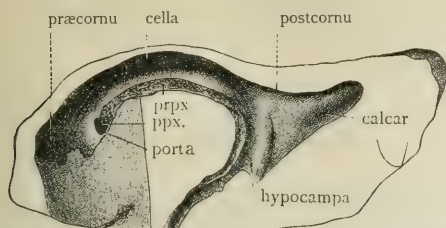


FIG. 56.—PART OF THE LEFT HEMISPHERE OF A CHILD ONE TO THREE YEARS OLD. Drawn by Professor Cleaves.

The *cælie* were alinjected. They may have been distended somewhat by the pressure, and the contour of the parietes rendered less distinct. The procele is exposed by removing the lateral wall, and the porta appears as an orifice into which projects the portiplexus (*ppx.*). The proplexus continues therefrom along the rima.

So far as I know, this mode of examining the porta in its undisturbed relations was first employed by me in the preparation of a cat's brain. Later preparations of the cat are figured and described in **14**, Fig. 19, "Anatomical Technology" (Pl. IV, Fig. 19), and in the present lecture (Fig. 55) a similar method was employed with the child's brain (Fig. 56). This and the cat's brain had their *cælie* alinjected.*

Fresh dissection.—As a rule, as stated in Lecture II (this journal, March 1st, p. 236), the examination of any difficult feature upon a fresh brain should not be undertaken until skill has been gained upon alcoholic preparations. If the parts can be kept from tearing, the fresh brain has the advantages of displaying the natural color of the several portal boundaries, and of yielding to a certain extent so as to exhibit their connections in a better light.

The porta does not always appear at the meson.—In most figures of the mesal aspect of the hemiencephalon the "foramen of Monro" is represented by an oval or semicircular dark spot. Judging from the preparations made or examined by me, the porta is invisible when the human meson is perpendicularly viewed, and I have yet to see it in any other mammal. This is due to the obliquity of the corresponding surfaces of the thalami and the forniculonne.

Form and direction.—I have not yet satisfied myself as to the precise form of the *undistorted* porta in the adult human brain. It is certainly narrower than a circle and wider than a slit. Provisionally, it may be described as a somewhat irregular oval, the smaller end dorsad.

The direction of the axes will, of course, vary with the position of the brain, but, for convenience, the sides may be regarded as cephalic and caudal, and the ends as dorsal and ventral.

Dimensions.—In an adult human brain, the *cælie* of which were injected with alcohol, the height of the porta is 6 mm. Judging from Welcker's casts, it was about 4.5 mm. in the brain he employed. Its width is more variable and less easily determined, but seems to vary from 1 to 3 mm.

* Since this was put in type, I have been able to make a similar preparation of an adult human brain.

The points of reflection of the endyma upon the plexus are not always directly opposite, so that either the fornicul or the thalamic border of the porta may be longer than the other.

Relatively to the size of the whole brain, the porta is much larger in the cat than in man. In the former its width varies from 0.5 to 1 mm., and its height from 3 to 4 mm. Its boundaries are essentially the same as in man in all mammals examined by me. Its limits are most satisfactorily exhibited in vertebrates where the rima is but slightly developed.

Boundaries.—Passing over the confused or erroneous descriptions of earlier works and some recent ones, each porta is correctly described in Quain (ii, 321) and Gray (640) as between the "anterior" end of the thalamus and the corresponding "pillar of the fornix." Its caudal boundary is the thalamus, its cephalic boundary is the forniculonne, and its ventral limit is formed by the continuity of these parts.

Here the description ceases. So far as I know, the dorsal limit of the porta, the "upper end of the foramen of Monro," has never been indicated outside of my publications,* nor, indeed, does any other anatomist appear to have been impressed with the necessity of determining what that limit is, or even of ascertaining that one exists.

Notwithstanding this apparent indifference, I can not refrain from expressing the conviction—which has steadily deepened during the last seven years—that a dorsal limit of the porta not only exists, but is a morphological necessity, and that its recognition is essential to a clear comprehension of the macroscopic structure of the brain.

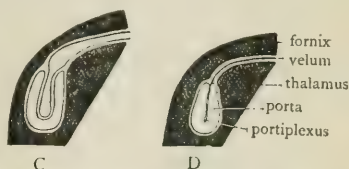


FIG. 30.—Two diagrams indicating the constitution of a simple plexus, and the manner of circumscription of the porta ("foramen of Monro") at the dorsal end of the reflection of the endyma upon the plexus.

That the porta is a completely circumscribed orifice is most satisfactorily demonstrated by means of a cast, the material being injected *per luvam* as described in Lecture II (this journal, March 1st, p. 235). The manner of its circumscription at the dorsal end may be determined by care-

* Four years ago, after repeated verifications of the portal boundaries in the cat and fairly satisfactory confirmation of the results upon the human material at my disposal, I prepared a paper upon the subject for presentation at the meeting of the American Medical Association in 1880. This was withdrawn in favor of papers of a more practical nature, but an abstract appeared in "The Medical Record" for August 7th. Substantially the same paper was read before the American Association for the Advancement of Science, August 29th (5), and illustrated by preparations and diagrams. The dorsal limitation of the porta was also indicated in papers (9, 136; 14, 558, Fig. 19), more fully described and figured in "Anatomical Technology" (459, Fig. 123), and demonstrated upon preparations of the human brain at the meeting of the American Neurological Association, June 23, 1883 ("Journal of Nervous and Mental Disease," July, 1883, p. 86).

ful dissection in any of the ways above indicated. Since the ventral end is simple enough, it may be opened from any direction. The interval between the thalamus and the fornix will then be seen to be partly occupied by a fold of pia, the portiplexus. The ventral border of this plexus hangs free, but, if the syringotome (Lecture II, p. 237) or some similar instrument of exploration is employed, and the plexus carefully pushed aside, first one way and then the other, it may be ascertained that the smooth endyma which lines the porta, like all other cœlian divisions, is reflected from the fornix upon the cephalic face of the plexus and from the thalamus upon its caudal face, and that in this way the dorsal end of the passage is closed as really and as effectually as if the plexus were not there at all, and the endyma were continued directly across from the fornix to the thalamus, as presumably it did in the embryo.

The porta, then, is a completely circumscribed orifice, a foramen with continuous parietes; but, while two sides and one end are bounded not only by endyma but by substantial masses, the dorsal end is limited only by the endyma as it is reflected upon the intruded plexus.

The porta and rima are different and distinct.—This follows from the foregoing description of the former, and from the now generally accepted description of the latter, as indicated in Fig. 31.* The porta is a primary, fundamental, and essential communication between the aula and either procele; the rima is merely a thinned-out line of the medicornual parietes through which the pia intrudes as the proplexus, and the latter hangs within the cornu just as the portiplexus hangs within the porta.

The difference between the porta and the rima may be roughly illustrated by comparison with a house, as suggested in Lecture I. Let the aula or primitive procele be represented by a small building, and each lateral portion by a larger one. Between the hall and the larger room at either side is a doorway. Suppose now that the substantial wooden wall of the larger building be removed, beginning with the

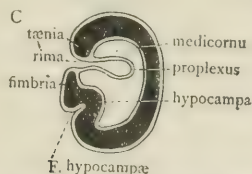


FIG. 31.—Diagram of a transsection of the medicornu ("cornu descendens"), showing the manner of formation of the proplexus, and the real closure of the rima by the reflection of the endyma thereon from the marginal taula and fimbria.

top of the door, but that there remain the paper lining and the paper covering of the same. Whether or not the latter project into the room, or the doorway, or the hall, or all three, the essential fact remains that the doorway is really limited at the top, just the same as if the wall at that place had not been removed.

The prevalent non-recognition of the dorsal limit of the porta is attributable to all the anthropotomical methods

* Schwabbe's Figure 314 represents the porta and rima as continuous and indistinguishable portions of an elongated fissure.

criticised in the present course: Roughness in removing and handling the brain; neglect of means of preserving the ental parts; adherence to conventional modes of dissection; unquestioning dependence upon published figures and descriptions; last, but by no means least, lack of morphological insight.

Original Communications.

SUPER-ALIMENTATION, ARTIFICIAL ALIMENTATION AND GAVAGE, AND THE EMPLOYMENT OF ALIMENTARY POWDERS, ACCORDING TO THE METHOD OF DR. DEBOVE.

By HENRY B. MILLARD, A. M., M. D.,

MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK; VICE-PRESIDENT OF THE NEW YORK MEDICO-CHIRURGICAL SOCIETY; HONORARY MEMBER OF THE SOCIÉTÉ ANATOMIQUE DE PARIS, ETC.

(Continued from page 467.)

As to the employment of *lavage* in organic diseases of the stomach, there might be, in certain cases, danger of breaking down newly formed cicatricial tissue or delicate vascular walls, and producing hæmorrhage, but, undoubtedly, *lavage* can ordinarily be employed with advantage in contributing to the nourishment of the system in cancer or ulceration of the stomach. Although a cure be impossible, life may be prolonged and suffering assuaged. Broca ("Progrès méd.," October 7, 1882), giving the opinions and experience of Dr. Beaumetz, Germain Sée, Kussmaul, and others, shows that *lavage* with artificial alimentation may be ordinarily resorted to in cancer and ulcer of the stomach, whether the cancer be ulcerated or not. This method is sometimes the only one of detecting the presence or absence of organic disease. Cornillon ("Progrès méd.," November 17, 1883) gives an account of a case of hæmatemesis from ulceration in an alcoholic person where the hæmorrhage was brought back by throwing in a quart and a half of water, this occurring each time it was used. Care and judgment, however, must be used; *lavage* can not be employed indiscriminately in all cases, and the amount of liquid thrown in must vary.

Among the cases of *ulcer of the stomach*, in addition to those reported by Kussmaul, Bucquoy, and others, is that of Carjat, already referred to in showing the effect of super-alimentation. (Hôpital Bicêtre, service of Dr. Debove.) This patient, a man aged fifty-four, suffered from a simple ulcer of the stomach. He had had five or six severe attacks of hæmatemesis, in the intervals between which there was occasional vomiting of glairy mucus, with intense epigastric pains. In January, 1881, he was in a condition of marasmus, and seemed at the point of death. In six weeks, *lavage*, followed by alimentation by the tube, had brought about an entire cure of the gastric trouble, and he had gained 3.5 kilogr. The middle of March he left the infirmary, still feeble, however; he continued to practice *lavage* at his own home, which he did easily twice a day; was able to work; there were occasional pains, but no vomiting. At

the end of a few weeks he discontinued lavage, using it only when there was great heaviness in the epigastrium. The year after leaving the infirmary the patient became tuberculous, the ulceration returned, and artificial alimentation was employed by Debove, with the results before given (see page 465). This case shows that neither lavage nor super-alimentation is contra-indicated in simple ulcer during the period of cicatrization, there having been no hæmorrhages for a considerable time. Large quantities of food, however, introduced when hæmorrhages are liable to occur, might produce serious accidents.

In *alcoholic gastritis*, Dr. Beaumetz considers *lavage* sovereign ("Bull. gén. de thérap.," October 13, 1880). Dr. Constantin Paul has given a case, and Broca (*loc. cit.*) gives the following case at the Bicêtre, where the cure was prompt and complete:

Hamerlin, aged thirty-seven, admitted March 30, 1882. Scrofulous constitution. Has been an inordinate drinker. For fourteen months violent gastric pains after eating; nothing but milk tolerated, and frequently not that; vomiting of acid substances, and constant pituitous catarrh. Vomiting finally became incessant, and, when admitted, digestion seemed quite given out. April 5th, Dr. Debove resorted to *lavage*. Tepid water used, and Vichy afterward; the exit from the stomach followed of a considerable quantity of the detritus of food hardly attacked by the gastric juice, and having a bad odor. A demi-litre of milk introduced; this was well supported. April 6th, *lavage* and Vichy, followed by the introduction by the sound of fifty grammes of beef powder. During the day he drank two litres of milk. These brought on the pain in the evening; *lavage* resorted to and undigested liquid withdrawn. Half a litre of milk introduced by the sound; patient felt well for an hour, when pain set in, and at 5 A. M. there was an attack of intense pain, followed by vomiting. In view of this persistence of gastric pain following the *lavage* as ordinarily employed, Dr. Debove changed the treatment. Instead of two *lavages*, each followed by a repast, *lavage* and the sound were resorted to only mornings, a litre of milk and one hundred grammes of powder being given; and the stomach was emptied when the pains commenced. This modification was followed by excellent effects. *Lavage*, after pain, brought away foul undigested aliment. By April 28th he was given daily three litres of milk and three hundred grammes of the powder. May 29th, discharged cured. For full details of these two last cases, see "Progrès méd.," September 30, October 7, 14, and 21, 1882, where a fuller explanation of the theory and practice of *lavage* may be found.

In many cases in which the stomach does not digest, it is because it is embarrassed by irritating substances, the detritus of former repasts, which, accumulating and decomposing, interfere with the secretion of the gastric juice. In time, the changes and degenerations become permanent, and a cure is impossible; but, if these irritating substances be washed out, and certain aliments introduced, digestion becomes possible. Dr. Debove's method is usually to throw in a litre of simple water, followed by a litre of artificial Vichy. The tube of Faucher, modified by Debove, as heretofore described, is used, this acting as a siphon, and being free from many objections of the stomach-pump.

Since October 1, 1883, I have employed *poudre de viande*, both by direct alimentation and by the tube, in a considerable number of cases, in the majority of instances with

great benefit; and I herewith present some of the most striking.

VOMITING OF PREGNANCY.—Mrs. W., primipara, aged twenty-two, two and a half months pregnant; general health excellent. October 15th, had had for more than a month severe retching daily; impossible to retain any nourishment except a little dry bread or broiled ham, which produce acidity. These cases of uncontrollable anorexia and vomiting in pregnancy are too common to make it necessary to dilate upon the symptoms of this one. It is sufficient to say that none of the ordinary measures of treatment were of use, and it became evident that the patient would sink unless she could in some way be nourished, or premature labor be induced.

Injections of sanguis exsiccatus were used, also of Reed and Carnrick's peptones, but both had the effect of producing severe tormina. Tongue dry, and dry retching and vomiting of greenish mucus; great prostration; kidneys perfectly healthy.

November 15th, I obtained her consent to introduce Debove's tube, which I succeeded, fortunately, in doing without much difficulty. Ten grammes of the powder, prepared with the yolk of an egg and water, introduced; retained. Some crampy pains in the stomach. In the evening the same quantity, with a teaspoonful of milk and a little brandy to counteract the debility, was digested. The next morning, November 16th, there was less retching, and, at 8 A. M., twenty grammes with half a pint of milk given; retained; at 1 P. M., the same quantity; at 8 P. M., twenty grammes with half a pint of milk. November 17th, 8 A. M., twenty grammes with milk; retained; 12 M., twenty-five grammes given. Is obliged always to keep her bed, movement being followed by nausea and retching. A small piece of beef digested. Eight P. M., twenty-five grammes of the powder. This was followed by vomiting and two or three loose movements. November 18th, 8 A. M., no nausea. Twenty-five grammes with milk; rejected. At 11 A. M., took a mutton chop, and at 5 P. M. some rare beef and bread. November 19th, as the stomach was most sensitive mornings, and as she was now stronger, I deferred the use of the tube to 11.30 A. M. Thirty-seven grammes, however, introduced; retained. At 6 P. M., took soup and beef. November 20th, at 12 M., fifty grammes with milk and a little cognac; digested; took a very good dinner. Every day, until November 30th, the same plan was pursued. By this time the stomach had gained so much strength, and the gastric juice seemed to be so well secreted, that I determined to try to dispense with artificial alimentation. The next morning, at eleven, she was able to take a chop, and from this time the artificial alimentation was discontinued. I do not think it necessary to give here more than the outlines of the case; and would only state further that by the 20th of December she was able to take sufficient of ordinary food to maintain her strength and to go about the room. She is now, March 1st, quite free from nausea.

This is the only case in which I have known artificial alimentation by the sound employed in the vomiting of pregnancy. Whether it be likely to prove useful generally in these cases, remains yet to be seen. I can not, however, tell why it should not be, where the vomiting is idiopathic and not dependent on any disease of the kidneys or uterus, and I hope the experience of others will prove as favorable as my own, though I can not suppose it will in all cases.

ANOREXIA AND NAUSEA FROM MALARIAL POISONING.—J. S., a woman, aged thirty-three, fifteen years ago had bilious fever, and was salivated to such an extent as to cause all his teeth to fall out. Previously her constitution and health were unusual.

ly robust; since then they have never been perfectly normal. A transatlantic trip in the summer will keep her well until the next summer; but, without it, every winter and spring are characterized, particularly on the occurrence of warm, wet weather, by great physical depression, neuralgic headaches, fainting turns, nausea, and loss of flesh. In December, 1883, was confined to her bed for several weeks with these symptoms: anorexia, dry retching, and inability to contain any nourishment. Twenty-five grammes of the powder given with milk and a little whisky, and retained; the evening of the same day the dose was repeated. Next morning, thirty-seven grammes; well digested. This was given three times daily, and she soon became able to take other food; great improvement in strength. The attempt to increase the quantity to fifty grammes three times a day was followed by a violent fit of vomiting, and it became necessary to omit it for a day. It was then resumed in doses of thirty-seven grammes three times daily. Its use has been since continued regularly, about thirty-seven grammes being taken twice a day with other food; and the result has been a considerable increase of strength.

After the patient had commenced sitting up, a compound powder of another maker, which was highly vaunted, was administered; but it produced violent vomiting and purging. I do not give the name of the maker, as I do not wish to seem to disparage other fabrications.

I have observed equal benefit from the treatment in several other cases of anorexia, nausea, vomiting, and loss of strength, the result of malarial poisoning.

PHTHISIS PULMONALIS, DIRECT ALIMENTATION.—C. M., aged thirty-eight. Several members of this patient's family died of consumption. His own lungs became affected three years ago. I first saw him February 14, 1884. He had been confined to his bed for three weeks. Right lung dull at apex; left lung, principal lobe full of cavities; lower, infiltrated; numerous smaller cavities; profuse purulent expectoration; extreme debility; aphonia; evening temperature, average about 100.5°; morning, normal. I determined to employ the powder here, because I thought it would give him more strength. Dr. Charles McDowell undertook to superintend its administration, and it was given as follows:

	Powdered beef, 75 grammes.
February 16.....	100 "
" 17.....	150 "
" 18.....	175 "
" 19.....	175 "
" 20.....	187.5 "
" 21.....	187.5 "
" 22.....	187.5 "
" 23.....	187.5 "
" 25, died at 5.30 A. M.	

For several days there was quite an increase of strength, and the powder was taken without difficulty, and even relished.

PHTHISIS PULMONALIS, DIRECT ALIMENTATION.—R., aged thirty-two. Softening and râles all over left lung anteriorly; bronchial respiration; evening exacerbations of fever; night sweats; weight, 120 pounds; appetite and digestion good; naturally very healthy. Commenced giving powder in twenty-five-gramme doses before breakfast, and a similar quantity in the night, as he required nourishment then; well digested. The next morning and night gave thirty-seven and afterward fifty grammes. The morning dose was in time increased to seventy-five, and the evening to fifty. After the seventy-five grammes in the morning he felt no desire for other food till lunch. Three fourths of a pint of milk and two or three eggs were given with the dose of powder. The one hundred and twenty-five grammes

were equal to about sixteen ounces of beef, without fat or fiber. After two months of this treatment the weight was 132 pounds; the cough, sweats, and fever all diminished; the moist sounds have almost disappeared. Is in a fair way to recover, and has just started for the South to avoid the bad weather of March.

There were two favorable conditions for the improvement in this case—namely, the circumstance that there was no inherited disposition to consumption, the family being an exceptionally healthy one; and the fact that the patient was able to take this food in large quantities, together with other food, without inconvenience. Three or four teaspoonfuls of rum were added to each portion of the powder.

PHTHISIS PULMONALIS, DIRECT ALIMENTATION.—A young lady, aged nineteen. The mother died of consumption; has had since last spring a dry cough, with dyspnoea; pains in the chest; respiration of right side harsh and prolonged; bronchophony and slight dullness of percussion; menses absent for three months; emaciated. December 1st, commenced the administration of the powder. It has been well borne, and seventy-five to one hundred grammes daily have been taken with other food. March 1st, there had been considerable gain of strength, together with two pounds in weight. Menses come on every six weeks, though scanty; cough and pains are better. Other remedies, however, have been employed in addition to the powder.

PHTHISIS PULMONALIS.—A. R., a man in an advanced stage of phthisis. Night sweats, vomice, infiltration of both lungs, abundant expectoration, anorexia, and nausea. The patient has been greatly benefited by the powder, and has been able to take two hundred grammes daily with milk and whisky, the benefit consisting mostly in improvement in strength and diminished cough, sweating, and expectoration.

PHTHISIS PULMONALIS, ALIMENTATION BY THE TUBE.—A lady, aged forty-five. Diffused râles over both lungs; dullness of percussion in left lung anteriorly and posteriorly, and over right lung posteriorly; sweats; violent cough, and muco-purulent expectoration; great emaciation; intolerance of food; nausea and vomiting; great difficulty in retaining anything on the stomach. Had the powder prepared in various ways, but she could not take it, each attempt producing nausea or vomiting. I represented to her the advantages of super-alimentation by the tube, and she at last consented to permit me to use it. The first time, January 1st, I introduced twenty-five grammes, with milk, which was retained. The next day, the same amount twice. Four hundred grammes are now given daily, and the patient is gaining in weight. All her symptoms and physical conditions are better. She takes considerable other food, and her strength is increasing. The sound is introduced without difficulty by her nurse.

PHTHISIS PULMONALIS.—Mrs. B., aged fifty; parents consumptive, and cases of scrofula and cancer in the family. Pulmonary affection began in March, 1882. Admitted to the hospital December 6, 1883. Has profuse night sweats; evening temperature averages 101; dyspnoea; cough, with profuse muco-purulent expectoration; dullness marked in upper part of right lung with bronchophony; moist râles all over right lung; softening; moist râles in upper portion of left lung; is very weak; weight, January 6, 1884, eighty pounds. Commenced the use of the powder, giving it in milk with a little brandy. In thirty-eight days she took, on an average, thirty-eight grammes per diem, equal to five and a half ounces of beef. This was perfectly assimilated. The patient paid for a private room in the hospital, and could not be compelled to take the powder in as full doses as might have been tolerated—on some of the thirty-

eight days not taking it at all. Once or twice it produced vomiting. I represented to her the benefit to be derived from *garage*, and she consented to have it employed; but she found the introduction of the tube so unpleasant that I was obliged to desist. The principal objection she made to the powder was that it produced, all over, a sensation of intense heat, followed by sweating. This is a phenomenon generally to be expected, but after a time the sweating diminishes. In spite of the moderate amount of powder taken, a great deal of benefit was obtained. The cough, sweating, and expectoration diminished, the breathing became freer, and, on examining the chest, February 29th, I found almost complete absence of moist sounds. Her weight increased, while taking the powder, from eighty to eighty-one and a half pounds—not a large amount in itself, but important considering that her inherited tendencies were of the worst, that she was in an advanced stage of phthisis and was rapidly failing, and that she took only moderate quantities of the powder.

Dr. James W. Ward, the house physician of the hospital, notes down the following points of improvement which he observed:

- "1. Improvement of general strength.
- "2. Increase of weight.
- "3. Lungs have been less painful.
- "4. The sputa, which previously sank in water, now float.
- "5. The bowels, which were constipated, have become regular.
- "6. Appetite for other food, which was sadly depraved, has increased. Temperature has been lower since the use of the powder was commenced. In short, nutrition has been improved, and she has advanced in many ways."

I believe that, were I permitted to employ artificial alimentation in this case, I should bring about a very great amount of improvement in every way.

The intolerance to the powder, which is liable to occur after it has been taken for a few days, has already been mentioned; this may usually be overcome. The physician, however, must not pronounce against it, if it be at first repugnant to the patient or produce nausea or diarrhoea; his ingenuity in making it acceptable must be employed, the time of taking it, the dose, and the quantity of other food carefully regulated. In cases of organic disease of the stomach it has been found that it can be tolerated for a longer time and with less inconvenience than other articles of food. Not only is its digestibility marked in the stomach, but also in the intestines. The conclusions of Ama-nieux (*loc. cit.*) are:

1. That the direct administration of the powder never produces immediate revulsion of the digestive tube (vomiting or diarrhoea) *if the dose be not too large*, except where there is fever or some affection in its acute stage. This conclusion applies equally to direct and artificial alimentation.

2. That the stomach tolerates very well the powder of beef in suitable doses, according to the manner of administration, even if this organ be subject to functional disturbances or there be anorexia.

3. That it is well borne by the stomach under the same conditions; and

4 and 5. That the entire digestive tube tolerates it, even when it can bear no other food; and this is the only aliment that can be borne by subjects in the most advanced

stage of tuberculous and cancerous cachexia. My own experience has shown me, however, that an occasional case will be met with where its direct administration will not be well borne in sufficient doses to be of benefit. These are, however, rare.

According to the same author, the following phenomena are observed: Sensations of *bien-être*, slight elevation of the temperature, increase of sweating and perspiration, increase of appetite, digestion of food generally, phenomena of organic reparation, followed by diminution of sweats and expectoration. That these phenomena are observed as a rule is shown by this author from hospital records. A well-recognized fact by medical men, and formulated by Bécclard,* helps explain the return of the appetite, namely, "the removing of the need of food (appetite) is in relation to the activity or rapidity of the nutritive movement."

According to Debove, however, artificial alimentation shows that there is no relation between the appetite of patients and their digestive faculties. A patient, for instance, who loathes all food, will digest a large quantity readily when introduced by the sound. In other cases vomiting would occur, the patient suffering from actual hunger, masticating and swallowing with pleasure. In these cases, food introduced artificially would be retained.

Finally, it is not expected that the *poudre de viande* will prove a panacea; it will fail sometimes when skillfully used, directly, or by the sound, even where it seems in every way appropriate to the case.

While I do not advocate it as a perfect means of cure in cases where assimilation is mainly at fault, neither do I expect to see it relegated to the limbo of vaunted remedies and therapeutic agents which have been tried and found wanting. It has been used too thoroughly in crucial cases, by physicians deservedly eminent, to be any longer an assumed and theoretical system of treatment; and I have employed it myself with so much care and success as to feel assured that from it many cures are to be expected in cases where no room seems to exist but for discouragement and despair.

THE PATHOLOGY AND RADICAL CURE OF HAY FEVER, OR HAY ASTHMA.

BY JOHN O. ROE, M. D., ROCHESTER, N. Y.

FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, MEMBER OF THE
MEDICAL SOCIETY OF THE STATE OF NEW YORK, OF THE AMERICAN MEDICAL ASSOCIATION, ETC.

(Second Article.)

(Concluded from page 495.)

In the treatment of hay fever we should first determine, by a careful exploration of the nasal chambers, the exact nature of the conditions which have been the exciting cause of the hyperæsthesia. Each particular spot which is especially sensitive should be located, and receive thorough and careful treatment until this sensitiveness is removed and no sensation of hay fever is experienced by the patient when these regions are touched. This hay-fever sensation is un-

* "Traité élémentaire de physiologie."

mistakable by the patient, for on touching these regions, however lightly, a burning sensation is felt in the nostril, as if the probe were heated, and is attended by the usual reflex phenomena.

When hypertrophied turbinated corpora cavernosa are the seat of the sensitive region, they should be thoroughly removed. When this region is the seat of the sensitiveness, though there is no well-marked hypertrophy of the turbinated bodies, sufficient tissue should be removed to destroy the diseased and sensitive terminal nerve filaments and to obliterate the enlarged blood-vessels. Redundant and hypertrophied tissue is best removed with Jarvis's snare, although caustics, such as acetic, chromic, or nitric acid, may be employed. For the destruction of the deeper plexuses of vessels, the galvanic cautery is by far the most efficient. It is also the most efficient means of removing the sensitive regions on the septum and other portions of the nasal chambers. For the latter purpose, a very small point should be used, so as to enable the operator to limit the cauterization entirely to the diseased tissue, and, by using a very small point, but little pain is occasioned.

All obstructions to the nostrils other than hypertrophic tissue should be removed, and also all abnormal conditions of the passages, whether they be sufficient to cause obstruction to the chambers or not, should be corrected.

In all these cases it is of special importance that there should be no points of contact between the turbinated bones themselves or the turbinated bones and the septum, even though there be no obstruction whatever to respiration. Spiculae of bone are often found projecting across like a spur and exciting irritation and producing thickening of the opposite surface. This condition is more often found between the middle and superior than the inferior turbinated bone and the septum.

Afterward, when all offending tissue has been removed, local medication should be made to the nasal passages until the parts are healed and the chronic rhinitis cured, and the special irritability and hyperæsthesia has disappeared from every portion that is shown by the exploration with a probe to be abnormally sensitive.

The time when these radically curative measures should be instituted is, my observations lead me to believe, when the patient is free from the affection, and in time to allow thorough healing of the parts before the time of the expected attack, although, if necessary, it may be begun during the attack.*

It is also advisable and even necessary (where there is a doubt as to the sufficiency of the treatment) to examine the patient from time to time during the hay-fever season to observe if any portion of the nasal mucous membrane be-

* Respecting the time that treatment is best undertaken, as Dr. Allen has anticipated ("Am. Jour. of the Med. Sci.," *loc. cit.*, p. 164, note), I can not quite agree with him that it is best instituted during the attack at the time when all the tissues are greatly swollen and inordinately sensitive.

Dr. Allen considers it preferable that it should be initiated at this time, for the reason that "the places of contact can be then easily determined." It will be at once seen that I have found this to be unnecessary, for the reason that all the sensitive regions can be accurately determined before in the manner already detailed above.

comes irritated that has before been overlooked. If so, it should then receive prompt attention, and the diseased portion be thoroughly removed.

The practical outcome or result of this method of dealing with hay fever is, after all, the most interesting evidence as to its value. Of the five cases which I reported to the society last year, four have been accessible, so that I have been able to determine the result in these.

CASE I.—A farmer, aged thirty-five years. Hay fever twelve years. Treated in the fall of 1878. Has remained entirely exempt from hay fever since—now five years.

CASE II.—I have lost sight of.

CASE III.—Mr. S., of Kansas, aged thirty-four. Hay fever twenty years. Was treated in mid-winter of 1881 and 1882. Has remained practically exempt. One hot, dry, dusty day last August he went out shooting in a dry stubble. Immediately after he had a profuse watery discharge from the nose, but which continued for only two or three hours. But he had no other trouble during the remainder of the season. This shows, however, that he has still some *slight* sensitiveness in the nose, for which he is to report for treatment early in the spring.

CASE IV.—Mrs. K., aged thirty-one years. Hay fever eight years. Treated in the spring of 1882. Has remained exempt since. Two summers have now passed.

CASE V.—Miss C., aged twenty-two, also hay fever eight years. Treated in the spring of 1882. Has remained exempt since. Last summer, however, about one week before the time for her annual attack, she took a severe cold, which rendered her nose and throat sensitive, so that on a dry, dusty day she felt a slight irritation about and had a slight watery discharge from the nose, but none of her old distressing symptoms of hay fever.

CASE VI.—J. R., aged twenty-seven, a stout, well-developed man, was referred to me March 9, 1883. He had had hay fever for eight years very severely, his attacks coming on about August 10th and continuing until frost came, and being attended with more or less asthma. During the remainder of the year he had more or less catarrh and frequent colds in the head, with marked stoppage of the nostrils. When free from colds, his nostrils were clear and unobstructed. The inhalation of dust or any marked irritant at any time would cause sneezing and temporary stoppage of them.

Examination showed moderate general thickening of the mucous membrane of both nasal passages, but the turbinated bodies were not noticeably hypertrophied, nor were there any bony obstructions. On exploration, marked sensitiveness was found all along the inferior and middle turbinated bones, especially at the posterior end, giving rise to the characteristic sensations of hay fever. A similar sensitive region was found along the lower portion of the septum on both sides, and on the left side it was also very sensitive along its upper portion.

Treatment.—The sensitive turbinated tissue was cauterized sufficiently to destroy the hyperæsthesia and to obliterate the enlarged vessels which the frequent, sudden, and great swelling of this tissue indicated to be the case. A very small point was used, so as to give the least amount of pain. The sensitive organs of the septum were also touched with the cautery-point. Afterward local treatment was continued to the passages for three or four weeks, until the parts had healed and no symptoms of hay fever could be excited in any portion of the nasal cavity.

He was traveling most of the time, and during the latter part of August went West. In November I heard from him that he had escaped entirely his annual attack, although he was in the region where others were having it and where he had had it before.

I will now add two equally interesting and very similar cases. In one of the patients the treatment was not sufficiently complete and thorough, and, in consequence, he had his annual attack. In the other, treatment was thoroughly followed out, and she was accordingly entirely cured.

CASE VII.—Mr. H., aged fifty-three, engineer. Hay fever very severely for twenty years, and attended with more or less asthma. His attacks came on from the 5th to the 15th of August and lasted until frost came.

During the remainder of the year he had more or less irritation about and discharge from the nose, which he attributed to the effect of hay fever. The slightest irritation would provoke sneezing, as sudden change of temperature from hot to cold, or cold to hot air. Spices, mustard, pepper, or horse-radish taken at meals would provoke violent attacks of sneezing, and dust was exceedingly irritating to him.

The summer of 1882 he spent in Florida to escape the disease. He went by water, and was entirely relieved as soon as he got well out to sea. While in Jacksonville he had but little trouble. He came home by rail the last of September, and by the time he reached Ohio he had hay fever even more severely than usual. June 18th of last year he came for treatment for hay fever. Examination showed marked hypertrophy of the inferior turbinated bones, a general disease and thickening and marked sensitiveness of the mucous membrane throughout the nasal passages.

I advised the removal of this hypertrophied tissue and all the sensitive areas in the nose, and afterward thorough general treatment to the other portions of the nose and throat.

I removed the tissue—a portion with the snare and a portion with the galvano-cautery. Before all the nasal disease was removed and the treatment of the case completed it was discontinued, and I did not again see him until the 18th of August, when he returned with hay fever very severely.

As I was about to leave for my vacation, I had no time to treat him then, and he went through with his severe annual attack. At the time of attack, when I saw him, there was no evidence of engorgement, swelling, and irritation of the tissues covering the inferior turbinated bones, on which I had operated for the removal of the hypertrophied tissues. On an examination of his nose, made a few days ago, I found the sensitive region to be confined mainly to the upper border of the septum on the right side. On touching this spot with a probe, asthma, violent sneezing, lachrymation, and a profuse watery discharge from the nose, were at once induced.

No special irritation was induced with the probe in other portions of the passages; not even a sneeze was excited.

CASE VIII.—Mrs. C., a distinguished music-teacher of Brockport and Rochester, consulted me, June 15, 1884, in regard to hay fever, from which she had suffered nearly every season since girlhood.

In describing her own case she says: "With my present knowledge of hay fever, I can see that I used to have it thirty years ago, but called it then a summer cold, and did not observe its seasonal periodicity closely. I remember, however, that a bouquet of roses was a terror to me, and a ride in the country during clover blossoming or harvest greatly aggravated this cold." She resided during this time in Brockport, N. Y., and afterward for two years in Washington, Ga. About 1868 she removed to Rochester, and escaped the fever four or five years. In 1876 she returned to Brockport, and found she had returned to her hay fever, which she observed came on from August 15th to 20th, and continued until frost killed vegetation. Some years she also had a severe attack of rose cold in June, which lasted six or eight days.

The symptoms attending her attack she described as fol-

lows: Itching of eyelids and back of the throat and mouth; complete closing of the nostrils, which would open only for the passage of drops or streams of hot, clear water. Unable to sleep with mouth open, and unable to breathe with it shut, she spent the night sitting upright in bed, she says, "wondering at what seemed to her the culpable indifference of physicians to a disease which produced such intense suffering."

Some nights she coughed almost incessantly—a dry, spasmodic cough, very much like a bark.

With the wear of the fever and loss of sleep, winter always found her weak and unable to resist the cold. Her throat was very sore most of the time, and, while she did not feel a constant catarrh, the least exposure gave her a severe cold in the head.

Her health became in consequence very greatly impaired.

Examination of her nose showed well-marked hypertrophy of the inferior turbinated bones, both anteriorly and posteriorly. The tissue covering the middle turbinated bones was also thickened, and the bones so markedly projecting as to be in contact with the septum. Limited regions of thickened tissue were also found on both sides of the septum, which were extremely sensitive to the touch of a probe. In fact, violent sneezing, etc., would be excited by touching almost any portion of the nasal cavity.

The treatment consisted in removing all the redundant hypertrophied tissue with the snare, and afterward the deep plexuses of vessels were destroyed with the galvano-cautery electrode. The sensitive tissue on the septum was also cauterized with an electrode having a very small point, so that only the diseased portions were touched, and but little pain was thereby occasioned.

The projecting portions of the middle turbinated bones were removed with a pair of bone scissors, under an anæsthetic.

After thus thoroughly removing all the tissue obstructions in the nose, mildly astringent local medication was continued until the parts were thoroughly healed and all abnormal sensitiveness of every portion of the passages, on being touched with a probe, had disappeared.

The result in this case was entirely satisfactory, as the little lady passed through the season without the slightest indications of hay fever.

In writing to an inquiring friend of hers—a hay-fever sufferer—on September 1st, she says:

"Up to August 20th I did not feel quite sure of my safety, as the vegetation was unusually late; but now the weeds are in their prime, and yesterday was a trial. I went on the lawn, took the mower from the gardener, and ran it in the hot sun; went into the garden and exercised violently; pulled weeds and nearly roasted myself, without a sneeze or a tear, and at night put my head on only an ordinary pillow and slept as well as if I had never had hay fever."

During the present winter she says she is stronger and her general health is better than it has been in fifteen years. She has also been entirely free from colds and sore throat, to which she was constantly subject before her treatment for hay fever.

In conclusion, gentlemen, it must appear to you that it is clearly demonstrable that the cause which annually inflicts so much suffering on so many individuals is to be found in the nasal chambers, and can, with care and patience on the part of the physician and perseverance on the part of the individual, be entirely removed; that in those cases in which we fail at first to give our patients entire relief we know that our work has been incomplete, and that, by perseverance, our efforts, in every instance, will be crowned with success.

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THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

As was to be anticipated from the programmes, the meeting that was concluded at Washington yesterday brought out a considerable amount of interesting matter in the sections, including the addresses of the chairmen, notwithstanding the failure of the chairman of the section in surgery and anatomy to read his address. The first interest felt by the profession in these annual meetings, however, turns upon what is done in the general sessions. The President's address on this occasion was of the dignified and graceful character that everybody who knew Dr. Flint felt confident it would be. In the present state of feeling in the profession, its most important feature was, of course, the reference to the subject of the code of ethics. The President was almost constrained to make some mention of the matter, and we think he could scarcely have touched upon it more judiciously than he did. The action he suggested—the statement by a committee of the reasons why non-sectarian physicians feel a repugnance to affiliating with the partisans of any exclusive dogma in medicine—ought to prove of service, although much will depend on the way in which it is carried out. It would have been still better, perhaps, if the President's own charitable construction of the clause prohibiting consultations with irregular practitioners had been confirmed by explanatory resolutions passed by the meeting. Let it be understood that there are circumstances under which, as the President himself seems to think, the demands of humanity may take precedence of the written code, and we venture to say there will be no more discord on the ethical question. At all events, it is satisfactory to be able to record that the matter of ethics was not presented to the meeting in such a shape as to lead to anything approaching to controversy.

At almost every meeting of the association some endeavor is made to influence national legislation, and the meeting just closed was no exception. In the main, the measures urged upon the attention of Congress must be said to be such as commend themselves to every enlightened mind. The continuance of the committee charged with promoting legislation for the purpose of providing suitable quarters for the Army Medical Museum and the Library of the Surgeon General's Office was certainly most proper. Dr. Sternberg's resolutions calling upon the Government to make appropriations for the prosecution of researches relating to the causes and means of prevention of infectious diseases, and to make permanent details from the medical corps of the army and the navy of officers to conduct such investigations, are directed toward the accomplishment of a most worthy purpose; but, since they specifically call for the direction of the necessary expenditure to be intrusted to the

National Board of Health, they may not have the force with Congress which they might have had if they had been a trifle more general in their terms. The wording of one of the other resolutions seems to have been unfortunate, to say the least, for surely Congress is not likely to be persuaded of the temperateness of the association when it inveighs against "illegitimate" legislation.

We are surprised at the tenor of the minority report of the Board of Trustees of the Journal, but the fact of its having been tabled by a vote of more than two to one shows that the meeting took the view of the matter that we suggested last week it would have reason to take, namely, that the course of the journal had been eminently satisfactory. It is to be regretted that the distinguished editor of the journal still feels that he can serve in that capacity only for a brief period longer.

GIFTS TO MEDICAL COLLEGES.

It is commonly supposed that the rarity with which the beneficent direct their good works in a channel that makes them available for the furtherance of medical teaching springs from an apathy on the part of the public to the advancement of medicine. It is doubtless true that the contentions of the sects have done something to bring about such a feeling, but there seems reason to believe that the indifference of the community is more apparent than real. There is one consideration that appears adequate to explain the infrequency of gifts and bequests made specifically to medical schools, and that is the impression, which may be assumed to be common, that money given to a university will be partly applied to the purposes of the various departments of that university, including the medical school. Now, since almost every medical college is ostensibly a department of a university, it is quite intelligible that gifts to the parent institution should be considered sufficient to cover the needs of medical teaching. As a matter of fact, however, the connection between our medical schools and the universities of which they figure as departments is only nominal. It may not be the case, perhaps, that in no instance does the fund for the medical school benefit from the administration of the general fund, but certainly the cases must be very few in which it derives any such accession.

It ought not to be difficult to impress the importance of advanced medical education upon the community, and it seems as if that must have been accomplished long ago, but, perhaps for the reason we have suggested, it is among the greatest of rarities for it to result in any tangible benefit to the colleges. But it is encouraging to note that during the past few years the tide seems to have turned. Our readers have been made acquainted with the provisions for the Harvard Medical School and for the medical department of the University of Pennsylvania, as well as with the gratifying results that have attended the efforts of the Alumni Association of the College of Physicians and Surgeons, of New York, to raise a special fund for laboratory purposes. The most recent instance of the sort is the gift of the sum of fifty thousand dollars to the Bellevue Hospital Medical College by Mr. Andrew Carnegie, one of the trustees of the col-

lege. As the purposes to which, by the terms of the gift, the money can be applied are limited to the building and equipment of laboratories, it has devolved upon the faculty to raise a further sum with which to purchase the necessary land. The gift, therefore, is of no present pecuniary benefit to the faculty, but rather entails an additional outlay. To meet this increased demand, the faculty, we are glad to learn, has already met with such success that it has been enabled to secure a piece of land, fifty feet wide by one hundred and twenty feet deep, on Twenty-sixth Street, near First Avenue, on which it will soon build the necessary structures for complete laboratory facilities for the practical study of histology, physiology, pathology, and other branches. We understand that this will be the first considerable building in the country devoted wholly to such purposes. It is a pleasure to record this addition to the resources of the college, and we will add our belief that it will be administered to the greatest possible advantage.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 6, 1884:

DISEASES.	Week ending April 29.		Week ending May 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	7	0	2	0
Typhoid Fever	8	4	12	5
Scarlet Fever	103	16	82	18
Cerebro-spinal meningitis	4	3	5	4
Measles	87	9	106	20
Diphtheria	41	16	39	24

YELLOW FEVER.—The United States steamer Portsmouth, with yellow-fever patients on board, arrived at Portsmouth, N. H., on Sunday, and anchored at the quarantine station in the lower harbor. Thirteen deaths are said to have occurred from the disease in Havana during the week ending Friday of last week.

SMALL-POX.—Five new cases of the disease are reported to have appeared in Ashland, Pa., on the 3d inst. Our London exchanges seem to consider an epidemic impending in Great Britain.

THE COLLEGE OF PHYSICIANS AND SURGEONS will hold its annual commencement Tuesday afternoon, the 13th inst., at Steinway Hall. The address to the graduating class will be delivered by the Rev. Howard Crosby, D. D.

DR. HAMMOND'S ARTICLE ON MERYACHIT, which originally appeared in this journal for February 16th, and the publication of which in the "British Medical Journal" for April 19th we alluded to last week, we now find in the "Union Médicale" for April 24th—*translated from an Italian journal.*

THE "PLANET."—We regret to have to announce that the publication of this monthly journal has been discontinued. The editor, Dr. C. E. Nelson, asks us to express his thanks to his late associates of the medical press for the courtesies they have extended to him, and we wish to add, for our own part, that we shall miss the piquant humor that was peculiar to the "Planet."

THE MASSACHUSETTS GENERAL HOSPITAL.—At a recent meeting of the trustees, the usual appointments were made of house officers (house physicians and surgeons, as they are called). One

of the candidates was supported by a report signed by four of the visiting surgeons, while the two other surgeons sent in a letter giving the reasons why they differed with their colleagues in regard to this appointment, which reasons the trustees must have regarded as cogent, for they appointed the candidate recommended by the minority. Soon after the appointment was announced, Dr. Henry J. Bigelow and Dr. Richard M. Hodges resigned their positions as surgeons to the hospital. The former gentleman was appointed surgeon in 1846, and the latter in 1863. We do not yet know what action the trustees will take in the matter, but it is to be hoped that the long and honorable terms of service of these two eminent surgeons may not thus be brought to an untimely close.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION will hold its sixth annual congress in New York on Monday, Tuesday, and Wednesday, May 12th, 13th, and 14th. The sessions will be held in the Hall of the Academy of Medicine, and the profession at large is invited to attend them. The following programme is announced: **MONDAY.**—*Morning Session, at 10 o'clock:* Roll-call, Reception of Guests, etc.; Address of Welcome, by the President, Dr. Francke H. Bosworth, of New York; The Clinical Significance of Fibrinous Exudations upon the Mucous Membrane of the Upper Air-passages, by the President; A Contribution to the Study of Congenital Syphilis, by Dr. John N. Mackenzie, of Baltimore; Appointment of Nominating and Auditing Committees; Election of Fellows. *Afternoon Session, at 3 o'clock:* Retro-pharyngeal Abscess, by Dr. John O. Roe, of Rochester; Congenital Web of the Vocal Bands (case), by Dr. T. A. DeBlois, of Boston; Gunshot Wound of the Larynx involving the Vocal Bands (case), by Dr. W. H. Daly, of Pittsburgh; A Case of Complete Paralysis of the Left Vocal Band, the result of an Incised Wound of the Neck, by Dr. J. Solis Cohen, of Philadelphia. *Evening:* Reception by the President, at 8 30 o'clock. **TUESDAY.**—*Morning Session, at 10 o'clock:* Business Meeting. At 11 o'clock: A Rare Form of Tumor (Cavernous Papilloma) of the Vocal Bands, by Dr. F. H. Hooper, of Boston; A Case of Echchondrosis of the Larynx, by Dr. Morris J. Asch, of New York; A New Method for the Removal of Laryngeal Growths, by Dr. W. C. Jarvis, of New York; Presentation of Instruments, etc. *Afternoon Session, at 3 o'clock:* Discussion of the New Nomenclature; Permanent Unilateral Paralysis of the Laryngeal Abductors, following Cerebral Hæmorrhage (unique case), by Dr. D. Bryson Delavan, of New York; Stricture of the Oesophagus (case), by Dr. Rufus P. Lincoln, of New York; Tracheal Stenosis, by Dr. E. Fletcher Ingals, of Chicago. *Evening:* Annual Dinner, at the University Club, at 7 o'clock. **WEDNESDAY.**—*Morning Session, at 10 o'clock:* Herpes Laryngis, by Dr. S. H. Chapman, of New Haven; Cases of Buccal Tuberculosis, by Dr. T. A. DeBlois, of Boston; Goitre, by Dr. William Porter, of St. Louis; On Hay Fever, and its Successful Treatment, by Dr. C. E. Sajous, of Philadelphia. *Afternoon Session, at 3 o'clock:* Spasm of the Glottis, by Dr. Louis Elsborg, of New York; A Contribution to the Study of Laryngeal Chorea, by Dr. Edgar Holden, of Newark; On the Comparative Value of the Galvano-Cantery in Diseases of the Nasal and Pharyngeal Cavities, by Dr. E. L. Shurley, of Detroit; A Contribution to the Study of Adenoid Vegetations at the Vault of the Pharynx, by Dr. Beverley Robinson, of New York; Election of Officers, and their Induction into Office.

PROFESSOR GOSSELIN, according to the "Lancet," is at Cannes, in a state of health that, taken in connection with his age, occasions some anxiety.

THE HUDSON COUNTY, N. J., MEDICAL SOCIETY.—At the annual meeting of the District Medical Society for the County of Hudson, held at Jersey City, May 6th, the following-named

gentlemen were elected officers for the ensuing year: Dr. William Perry Watson, president; Dr. James A. Exton, vice-president; Dr. Calvin F. Kyte, secretary; Dr. G. Fred. Pitta, treasurer; Dr. Charles G. Schubt, reporter; Dr. Exton, Dr. Gordon, Dr. Helfer, Dr. Hoffman, Dr. Kyte, Dr. Schubt, and Dr. Watson, delegates to the next meeting of the State Medical Society, to be held at Cape May, June 14th.

NIAGARA UNIVERSITY.—The power of the university to confer the degree in medicine having been called in question, as we stated some weeks ago, a bill has passed the Legislature, and been signed by the Governor, specifically giving the corporation that power. The bill provides that candidates for the degree must have attended three courses of lectures, which provision, as we understand that the bill was drawn in accordance with the wish of the university, is a substantial sign of the desire of the faculty to raise the standard of medical education.

SUICIDE OF A PHYSICIAN.—Dr. Edward Seigle, of Newton, N. C., is reported to have committed suicide last Sunday, by taking laudanum.

THE LATE DR. WILLARD PARKER.—The Board of Health of the City of New York has passed resolutions of regret for the death of Dr. Parker, who was a member of the first board of health of the city.

THE NEW YORK ACADEMY OF MEDICINE.—At the next meeting, to be held Thursday evening, the 15th inst., the following papers will be read: "Practical Suggestions upon the Alimention of Patients suffering from Dysphagia," by Dr. D. Bryson Delavan; "On Chance of the Tonsils," by Dr. Robert W. Taylor.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 27, 1884, to May 3, 1884:*

HEGER, ANTHONY, Major and Surgeon. From Department of Texas to Department of the East. Par. 2, S. O. 101, A. G. O., May 1, 1884.

HAPPERSETT, J. C. G., Major and Surgeon. From Department of Texas to Department of the East. Par. 2, S. O. 101, A. G. O., May 1, 1884.

BENTLEY, EDWIN, Major and Surgeon. From Department of the East to Department of Texas. Par. 2, S. O. 101, A. G. O., May 1, 1884.

MIDDLETON, PASSMORE, Captain and Assistant Surgeon. From Department of Texas to Department of the Missouri. Par. 2, S. O. 101, A. G. O., May 1, 1884.

KOERPER, E. A., Captain and Assistant Surgeon. From Department of the East to Department of Dakota. Par. 2, S. O. 101, A. G. O., May 1, 1884.

DICKSON, J. M., Captain and Assistant Surgeon. From Department of the East to Department of California. Par. 2, S. O. 101, A. G. O., May 1, 1884.

GIRARD, A. C., Captain and Assistant Surgeon. From Department of Dakota to Department of the Missouri. Par. 2, S. O. 101, A. G. O., May 1, 1884.

GIRARD, J. B., Captain and Assistant Surgeon. From Department of Arizona to Department of the East. Par. 2, S. O. 101, A. G. O., May 1, 1884.

HALL, J. D., Captain and Assistant Surgeon. From Department of Dakota to Department of the Columbia. Par. 2, S. O. 101, A. G. O., May 1, 1884.

HALL, WILLIAM R., Captain and Assistant Surgeon. From Department of the Missouri to Department of Texas. Par. 2, S. O. 101, A. G. O., May 1, 1884.

CUNNINGHAM, T. A., Captain and Assistant Surgeon. From

Department of the East to Department of the Missouri. Par. 2, S. O. 101, A. G. O., May 1, 1884.

MCONEERY, GEORGE, First Lieutenant and Assistant Surgeon. From Department of Arizona to Department of Dakota. Par. 2, S. O. 101, A. G. O., May 1, 1884.

COCHRAN, J. J., First Lieutenant and Assistant Surgeon. From Department of the Missouri to Department of Arizona. Par. 2, S. O. 101, A. G. O., May 1, 1884.

SCHUFFELDT, ROBERT W., Captain and Assistant Surgeon. Relieved from temporary duty in Surgeon-General's office and ordered to report to Lieutenant-Colonel Basil Norris, Surgeon, U. S. Army, attending surgeon, Washington, D. C., for temporary duty in his office. Par. 6, S. O. 100, A. G. O., April 30, 1884.

BARROWS, C. C., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Grant, A. T., and ordered to report for duty at Whipple Barracks, A. T., relieving First Lieutenant W. E. Hopkins, Assistant Surgeon, who, upon being relieved, will report for duty as post surgeon at Fort Grant, A. T. Par. 1, S. O. 31, Headquarters Department of Arizona, April 21, 1884.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon, Fort Warren, Mass. Ordered to report for temporary duty to the commanding officer at Fort Preble, Maine. Par. 1, S. O. 81, Headquarters Department of the East, April 28, 1884.

CUTLER, JOHN M., Colonel and Surgeon. Retired. Died at Morristown, N. J., April 26, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending May 3, 1884:*

HARVEY, H. P., Passed Assistant Surgeon. Detached from Naval Hospital, Chelsea, and ordered to the St. Mary's.

MC CARTHY, R. H., Passed Assistant Surgeon. Ordered to Naval Hospital, Chelsea.

WAGGENER, J. R., Passed Assistant Surgeon. Detached from the St. Mary's and ordered to the Hartford.

WISE, J. C., Surgeon. Detached from the New Hampshire and ordered as member of Board of Examiners at Annapolis.

CRAIG, T. C., Assistant Surgeon. Promoted to Passed Assistant Surgeon.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, May 12th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology).

Tuesday, May 13th: New York Surgical Society; New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual), Rensselaer, and Ulster, N. Y., and Camden (annual), Morris (annual), and Sussex, N. J., Newark Medical Association (private); Jersey City Pathological Society (private); Trenton, N. J., Medical Association (private).

Wednesday, May 14th: New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society.

Thursday, May 15th: New York Academy of Medicine.

OBITUARY NOTES.

PROFESSOR SAMUEL D. GROSS, OF PHILADELPHIA.—In our last issue we stated that Professor Gross's condition was such as to give occasion for anxiety. He had been ill for a number of weeks, and on Tuesday, the 6th inst., he died. It is understood that his remains were disposed of by incineration.

Samuel D. Gross, M. D., LL. D., D. C. L., emeritus professor of the institutes and practice of surgery in the Jefferson Medical College, was born near Easton, Pa., July 8, 1805. After a high-school education, he studied medicine as a pupil of the late Dr. George McClellan, and received the degree in medicine from

the Jefferson Medical College in 1828. He began practice in Philadelphia, but returned to Easton in 1830. In 1833 he removed to Cincinnati, having been made demonstrator of anatomy in the Medical College of Ohio. In 1835 he became professor of pathological anatomy in the medical department of the Cincinnati College. During his stay in Cincinnati he earned a wide reputation as a surgeon and as a contributor to the advancement of medicine. In 1839 he was made professor of surgery in the University of Louisville, where his fame soon became national. In 1850 he came to New York, having been appointed to the chair of surgery in the medical department of the University of the City of New York, as the successor of Dr. Valentine Mott. He served but one season in this capacity, however, and returned to Louisville in 1851. In 1856 he was chosen professor of surgery in the Jefferson Medical College, succeeding Dr. Mütter, and he remained in Philadelphia thereafter.

During the early part of his career as a teacher, Dr. Gross was chiefly known to the profession throughout the country as the author of a systematic treatise on pathological anatomy which was for many years the standard text-book in America. In 1859 the first edition of his "System of Surgery," a colossal and monumental work, was published. This book at once took a prominent place in the surgical literature of the world, and, perhaps more than any other single work ever issued from the American press, served to disclose the achievements of the American profession to their colleagues in foreign countries. Ever since it appeared it has been everywhere considered as among the best treatises on the subject. Dr. Gross was the author of several other works, all of which bore evidence of excellence, and at one time he was the editor of the "North American Medico-Chirurgical Review." He was the first president of the Philadelphia Pathological Society, of which he was one of the founders, and at different times he was president of the American Medical Association, of the Pennsylvania State Medical Society, of the International Medical Congress, and of the American Surgical Association. He received distinguished honors from a number of foreign universities, including the degree of D. C. L. from Oxford and that of LL. D. from Cambridge and Edinburgh, the degree from the latter university having been conferred upon him *in absentia* at the tercentenary festival.

In addition to these formal honors, Dr. Gross was held in heartfelt admiration and esteem by the great mass of the profession in the United States, of which there could be no more touching mark than the action of the American Medical Association at the meeting held this week in Washington, as will be found reported in another column. Few men ever lived who bore greater sway over the medical profession than Dr. Gross has borne for many years past, and his influence was due to no art, but to the simple power of a long course of devotion to the best interests of those who delighted to do him honor. The world is better for his having lived, and no one will read the announcement of his death without a feeling of sadness. There is something touching in the fact that Dr. Gross and Dr. Willard Parker, who were closely associated in their early life, have paid the debt of nature within a few days of each other.

DR. A. RANDOLPH MOTT, JR.—Dr. Mott, a graduate of the University of Virginia, in the class of 1878, died on Tuesday, the 6th inst., of typhus contracted in the line of his duty as a member of the house staff of the Riverside Hospital, in this city, where he had served with conspicuous ability and devotion under the direction of the Board of Health. His untimely death adds another to the many instances of the self-sacrifice of physicians for the good of their fellow-men. The Board of Health has passed resolutions of regret for his decease, and of sympathy for his kindred.

Letters to the Editor.

THE NEW YORK SKIN AND CANCER HOSPITAL.

To the Editor of the New York Medical Journal:

SIR: As the impression seems to be more or less prevalent that the New York Skin and Cancer Hospital has abandoned the care of cancer, we deem it desirable to have the error corrected. The aim of the institution from the first has been to undertake the study and treatment of this disease, and over one third of the beds have, from the opening of the present building, been set apart for this purpose.

A tract of land of nearly one hundred and fifty acres has recently been secured just beyond the city line, and the plans for cottage pavilions have already been drawn. It is proposed to erect some of these at once, and to add to the number as they may be required, so as to afford unlimited accommodations for each and every case of cancer requiring assistance. Both early cases for operation are received and those which are chronic and hopeless.

Our city hospital, No. 243 East Thirty-fourth Street, will still be continued, and clinics are held there as follows:

Skin clinics every afternoon from two to four o'clock.

Special clinics for cancer every Monday, Tuesday, Friday, and Saturday, at the same hour.

L. D. BULKLEY, M.D.,
GEORGE HENRY FOX, M.D.
J. E. JANVIER, M.D.,
R. F. WEIR, M.D.,
E. L. KEYES, M.D.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Thirty-fifth Annual Meeting, held in Washington, Tuesday, Wednesday, Thursday, and Friday, May 6, 7, 8, and 9, 1884.

Tuesday—First Day.

The meeting was called to order in the Congregational Church, at the corner of Tenth and G Streets, at 10.30 A. M., by the chairman of the Committee of Arrangements, Dr. A. Y. P. GARNETT. After a prayer by the Rev. WILLIAM A. LEONARD, the chairman introduced the President of the Association, Dr. AUSTIN FLINT, of New York.

AN ADDRESS OF WELCOME was then read by Dr. GARNETT, after which he announced the following

LIST OF ENTERTAINMENTS.—*Tuesday:* Reception by the President of the United States, at the Executive Mansion, from 8.30 to 10.30 P. M.; Reception by Mr. and Mrs. L. Z. Leiter, from 9 to 11 P. M. *Wednesday:* Reception and Entertainment by the Medical Profession of Washington, at the National Rifles' Armory, from 9 to 12 P. M. *Thursday:* Illumination of the Corcoran Art Gallery, and Reception by Mr. W. W. Corcoran and the Board of Trustees, from 8 to 10 P. M.; Reception by Commissioner and Mrs. Loring, from 9 to 11 P. M.; Reception by Mr. and Mrs. W. T. Hildrup, from 9 to 11 P. M.; Reception by Chief Justice Morrison R. Waite, from 9 to 11 P. M. *Friday:* Reception by the Surgeon General of the Army and his Staff, at the Army Medical Museum, from 8 to 11 P. M.; Reception by the Hon. George F. Edmunds, President *pro tempore* of the Senate, and the Hon. John G. Carlisle, Speaker of the House of

Representatives, at 8 P. M.; Illumination of the Capitol from 8 to 10 P. M.

COMMUNICATIONS were acknowledged by the Committee of Arrangements from A. Pearce Gould, F. R. C. S., of London, and from other eminent medical men of Europe, and were ordered on the minutes.

THE REGISTRATION.—The secretary read the list of registered delegates up to the time of the morning session having been called to order, the whole number being five hundred and ninety. On registering, each delegate had subscribed to the following declaration: "In acknowledgment of having adopted the constitution, by-laws, and code of ethics of this body, and of my willingness to abide by them, and use my endeavors to carry into effect the objects of this association, I hereunto affix my name."

INVITED GUESTS.—Dr. J. H. TURNBULL, Dr. JONAS A. MARSHALL, Dr. GORLET, and the members of the Medical Association of the District of Columbia were invited to seats in the meeting.

A LETTER FROM DR. JOHN L. ATLEE, an ex-president of the association, expressing his regret at being unable to attend the meeting, was read by the secretary and ordered on the minutes.

THE PRESIDENT'S ADDRESS.—The President, Dr. AUSTIN FLINT, of New York, then proceeded to read his address, in which he referred to the natal period of the existence of the American Medical Association, and considered the reasons why it was founded and the reasons for its continued existence. He quoted from certain chapters setting forth the objects of the association, and then dwelt at more or less length upon each of them respectively. In proof of the progress of medicine, he pointed to the part recently shown to be played by germs in the production of disease, and, quoting from an address of Professor Huxley's, said he would so alter the author's statement as to read: It is to be hoped that means will be found to destroy morbid agents outside the body, thereby securing prevention of disease, and that a means will be found to effect a destruction of these agents within the body, thereby arresting the course of disease.

With regard to the elevation of the standard of medical education, he thought more had been done than seemed commonly to be supposed, and quoted from the work done and the recommendations made at different times by the committee on this subject. The President spoke of the importance of a closer union of didactic with clinical teaching, of increased demonstrative instruction in certain branches of medicine—such as histology, the physical exploration of the lungs, heart, etc.—and of allowing more time for oral recitations. One of the most important matters in attempts to elevate the standard of medical education related to the preliminary requisites for entering upon the study of medicine. Among the requisites which had been recommended was some knowledge of Latin and Greek, and the President thought that no exception could be taken to such a recommendation as it related to medicine; but, if one were about to enter upon the study of arts, or certain other educational courses, he thought the time spent in learning Greek and Latin might better be devoted to French and German. The practical question was, he repeated, What could the association do toward advancing the medical profession, and, before replying, he thought it would be proper to speak of what it was best not to do. It was not desirable to depreciate medical education in this country as compared with medical teaching and professional standing in other countries. As to the manner of medical instruction, he thought it more practical in many respects in this country than in Europe. Sweeping charges of venality and incompetency against medical schools were also improper. There was but little ground for the accusation that medical colleges resorted

to disreputable means for obtaining students. There were advantages and disadvantages connected with the necessity for self-support on the part of medical colleges.

Some of the evils complained of might be obviated by unity of action on the part of the medical profession throughout the country. Suppose that private preceptors recommended their pupils only to responsible schools, and that physicians received as pupils only those who, before entering upon the collegiate course, had received proper preliminary education. Let the National Association take the initiative step, and let it and local and State societies work together and obtain uniform action in bringing about an improvement in medical education. But it should not be expected that all desired improvements could be effected at once. Dr. Flint briefly referred to the subject of boards of medical examiners, and, without discussing their advantages or disadvantages in full, pointed out a few of the intrinsic objections to them.

With regard to the third object of the association, the promotion of the usefulness, the honor, the interests, etc., of the medical profession, he would confine his remarks to medical ethics. He spoke of the good influence which the code had had upon the minds of the profession, and quoted from the addresses of several of the ex-presidents. The Medical Society of the State of New York had taken precipitate action in changing its code of ethics, the portion of the national code which had been specially objected to relating to consultations with irregular practitioners. The interpretation of certain parts of the code at different periods seemed to vary more or less, although its intrinsic moral worth ever remained the same. With regard to the meaning of the term irregular practitioner, Dr. Flint thought it should not be interpreted to mean one who might entertain exclusive ideas regarding certain matters in medicine, but rather one who adopted a sectarian name, as homeopath, eclectic, etc. It might prove hazardous to tamper with the code of ethics; but he thought it proper, with the advance of time, to make interpretations of that code as it now stood. He would submit as a recommendation that the association adopt resolutions embodying a more precise specification than the code furnished as to the grounds for excluding consultations with irregular practitioners, and he would approve of its being stated that those who adopted a sectarian name should be excluded from fellowship with the regular profession. As to that object of the association relating to the means for directing public opinion with regard to the profession, etc., let it be understood that there could be no antagonism between "humanity" and medical ethics.

He recommended that the members take special interest in the sectional work, and also spoke of the advantages of the social features of the meetings. In this connection he recommended that steps be taken to have the International Medical Congress meet in this country in 1887. This recommendation had also been suggested or concurred in in letters which he had received from several gentlemen, among others Professor Samuel D. Gross, of Philadelphia, who was prevented from attending the meeting on account of serious illness. Dr. Flint took occasion here to pay a graceful tribute to this eminent surgeon.

Dr. KINLOCK being in the chair, Dr. TOXEZ, of Washington, moved that a vote of thanks be tendered the President for his able address, and that it be requested for publication. Carried.

PROFESSOR SAMUEL D. GROSS.—Dr. TOXEZ also offered the following resolution:

Whereas, It has come to the knowledge of the American Medical Association that one of its former presidents, a surgeon of world-wide reputation, whom we miss at this meeting, is confined to his home by serious illness; therefore be it

Resolved, That the American Medical Association tenders Professor Gross its heart-felt sympathy in his sufferings, and

expresses its sincere hope for his speedy recovery, and for many years of continued usefulness in the profession he has so signally adorned. The resolution was adopted.

Dr. GIRON, of the navy, moved that that portion of the President's address referring to Professor Gross be telegraphed to him at once as an appropriate form of expression of the sentiments of the association. Carried.

Dr. RICHARDSON stated that he had only recently come from the bedside of Dr. Gross, who, when asked whether he had any word to send the association, said, in a feeble voice, "Give them my love."

On motion of Dr. SAYRE, the resolutions offered by Dr. Toner were ordered to be telegraphed to Dr. Gross. And it was further resolved that the expression of love on the part of Dr. Gross toward the association be acknowledged and reciprocated.

The secretary read a telegram from Dr. BALDWIN, of Alabama, regretting his inability, on account of illness, to be present at the meeting.

Dr. SAYRE moved that that portion of the President's address requesting that the International Medical Congress meet in this country in 1887 be referred to a special committee of five, of which Dr. Billings should be the chairman. Carried.

MEDICAL ETHICS.—Several resolutions were offered regarding that portion of the President's address relating to medical ethics, for which the following, by Dr. FERGUSON, of New York, was finally substituted:.

Resolved, That that portion of the President's address referring to the subject of medical ethics be referred to a committee of seven, to report upon the recommendations therein contained as speedily as possible. Adopted.

The titles of several papers not on the printed list were then read, and, on motion, they were referred for reading before the appropriate sections.

Certain other gentlemen were invited to seats in the meeting and the session was then adjourned for the day.

Wednesday—Second Day.

The meeting was called to order at 10 A. M., by the President. A prayer was offered by the Rev. W. A. Bartlett, D. D.

THE DEATH OF PROFESSOR GROSS.—The President formally announced the death of Professor Samuel D. Gross, of Philadelphia, and appointed the following committee to take such action as it might think proper in the matter: Dr. Richardson, of Louisiana; Dr. Sayre, of New York; Dr. Packard, of Pennsylvania; Dr. Hamilton, of New York; Dr. Gunn, of Illinois; Dr. Briggs, of Tennessee; and Dr. Hays, of Pennsylvania. On motion, the President of the association was added to the committee as its chairman. The secretary read a dispatch from Dr. Samuel W. Gross, thanking the association for its telegraphic message expressing sympathy, but stating that it had not been received until after his father's death. Dr. Gross's dispatch was ordered on the minutes.

THE COMMITTEES ON THE PRESIDENT'S ADDRESS.—After some announcements by the Committee of Arrangements, the President appointed the following general committee on his annual address: Dr. N. S. Davis, Dr. W. W. Dawson, Dr. W. T. Briggs, Dr. T. S. Prout, Dr. Starmont, and Dr. H. B. Ransom. As the special committee, he named the following gentlemen: Dr. J. S. Billings, Dr. L. A. Sayre, Dr. R. H. Fitz, Dr. I. M. Hays, and Dr. H. F. Campbell.

MEDICAL SERVICE ON SHIPBOARD.—The committee appointed to frame resolutions in favor of securing more competent medical and sanitary service on board trans-oceanic passenger vessels reported, through its chairman, Dr. A. N. BELL, of New York, that a bill had been prepared and presented to Congress which covered the matter. [The full text of the bill has already been

published in this journal.] Dr. Bell went on to state that the mortality on board emigrant ships entering the port of New York for four years, up to 1883, was 35-12 in a thousand, being considerably greater than for a like period ending in 1873. This death-rate was at least three times as great as it ought to be. The causes of death were largely negligence and filth.

Dr. KEYSER, of Pennsylvania, said the bill before Congress was excellent, so far as it went, but it did not go far enough; it provided that the ship's surgeon might report to the captain, and the captain to the company—but to whom was the company to report? The bill should require the surgeon to report directly to the United States Government.

Dr. IRWIN, an English physician, thought the object of the bill was excellent, but that it was impracticable as it stood, and would prove ineffectual. He suggested certain points of improvement.

On motion, the report was received, and the committee continued, the suggestion having been made that information in regard to the matter be reduced to writing and submitted to the committee.

Dr. PRATT, of Michigan, moved the following resolution, which was carried unanimously:

Resolved, That the American Medical Association, now in session, urge upon Congress the necessity of suitable and efficient legislation to promote the well-being of immigrants to this country, and to protect our public health.

THE ADDRESS IN MEDICINE.—The chairman of the section, Dr. JOHN V. SHOEMAKER, of Philadelphia, then read his address.

After a few preliminary remarks on the difficulty of his subject, in consequence of the new theories constantly advanced, he said that in the field of pathology and pathological research the study of the infinitesimal had attracted great attention; and of the subjects prominently brought to the attention of the profession and exciting universal interest, more than any other, was that of the bacillus theory and the contagious character of tuberculosis. While the presence of micro-organisms in other diseases was being investigated and studied extensively, there was none which had so great a bearing and had caused so much comment as this one. Only a few years ago Koch stood almost alone in its advocacy. Now there were numbers of unbiased observers who confirmed his famous discovery. Foremost among these was Watson Cheyne, who visited Koch's laboratory for the express purpose of investigating the subject. His report fully confirmed the facts set forth by the great investigator, besides demonstrating the constant occurrence of the bacillus in all tubercular structures, as well as the relative position of the parasitic organism to cell-structure. Similar confirmatory evidence had been produced by Prudden, Dreschfeld, West, Gibbs, Heron, Wipham, Meissen, and others, from a clinical view of the constant presence of the bacillus in the sputa of phthisis; while Charnley Smith had even ingeniously demonstrated its presence in the expiratory air of consumptives by filtering it through gun-cotton, dissolving the latter in ether, and then fixing it on microscopical slides for inspection.

Dr. Austin Flint, Sr., accepted the new theory as well as the ætiological character of this micro-organism when added to predisposition, leaving the subject of contagion dependent upon the causative element combined with the favorable soil for its propagation, ascribing the usual absence of contagion to a lack of predisposition; and considered the presence of the bacillus as one of the most essential elements for the diagnosis of phthisis. Dr. Janeway, Dr. Welch, and Dr. Peabody, well-known authorities on this subject, concurred with Dr. Flint; likewise Dr. H. C. Ernst, in his contribution presented to the Massachusetts Medical Society, besides numerous other investigators, both here and abroad.

The presence of the bacillus had been observed in other tubercular lesions than those of the lungs: as in the mouth and soft palate, by Guttman and Finger; in the skin by Cornil; in lupus by Demme; in the uterus by Lindsey Stephens; in the urinary tract by Rosenstein, Babés, and Cornil, as well as in rectal abscesses by Smith. Dr. Wilson Fox admitted the fallacy of his former experiments, and accepted the theory of the contagious character and inoculability of the virus, admitting that injury to the rodents was not followed by tuberculosis, as previously expressed by him.

Now, while the adherents to Koch's theory had increased wonderfully, there were not wanting those who were open in their criticism, and opposed to the acceptance of anything like a bacterian origin of tuberculosis or other diseases. Their opposition was not based merely upon assertions or clinical evidence, but the result of years of observation and experiments, conducted here as well as at the very birthplace of the bacillus theory. Among those most prominently arrayed against it were Spina, Finkler, and Eichler, who pronounced the staining methods of Koch fallacious and misleading, while Feltz admitted his failure with cultivation by following Koch's method.

Formad, in this country, had made a most vigorous attack upon it, and had referred the etiology of tuberculosis to histological changes rather than to parasitic invasion, in which deduction he was supported by many eminent pathologists, such as Longstrech and others. In his denial of the contagiousness of tuberculosis he was in accord with Virchow, von Recklinghausen, Stricker, Gull, Williams, Watson, Paget, Humphrey, Richardson, Bennet, Hiram Corson, Trail Green, N. S. Davis, H. F. Campbell, and others.

The speaker then proceeded to say that the bacillus tuberculosis theory, however, was not the only one that had excited attention. The bacterial origin of other diseases had been earnestly advocated as well. Thus, a micro-organism had been found and studied by Friedländer as a micrococcus of pneumonia; and he thought it might serve to explain the occasional epidemic form of that complaint in certain localities. He also mentioned numerous other diseases in which these micro-organisms had been discovered, according to Koch special honor for his skill in this field of research.

Referring to the subject of medicine, he said our knowledge of nervous affections, though it had not progressed with the giant strides of other branches of medicine, was steadily advancing and emerging from its mysterious enfoldings. The localization of cerebral functions, though now generally accepted, had advanced us practically but little, though the trephine had daringly opened to the neurologist the hidden regions of dura mater and gray matter. Locomotor ataxia presented in its chronic state three diagnostic points for distinction: that of Duchenne; another depending on diffuse sclerosis of the cord and medulla oblongata; and a third was made of the ataxia of the periphery.

Speaking of typhoid fever, he inferred that the treatment by cold baths, of all antipyretics, was now thought to be the most serviceable, if we could trust to the statistics of recent investigators, as well as the thorough researches of Sassetzky in the analyses of the excreta. Alluding to renal diseases, he asserted that albuminuria had long been the subject of scientific inquiry, being considered more and more of nerve origin. Its close relation to diabetes, with mutual interchange in certain affections, had brought forward the proposition that both albuminuria and glycosuria might be produced by irritation of certain parts of the floor of the fourth ventricle. The hypertrophy of the muscular coat of the arterioles and the increased tension of the vascular system were also asserted to be due to irritation of the vaso-motor centers of the medulla. The latter, espe-

cially, had proved valuable in modifying the treatment of albuminuria. That the toxic influence of certain substances, as well as severe febrile affections, was productive of albuminuria was well known, and a recent instance had been cited where it occurred after varicella. Peptonuria had been investigated and found to co-exist with suppuration from various causes, or with large exudations. Speaking of the disease known as actinomycosis, and as being peculiar to horses and cattle, he stated that it had been exhibited by Treves in a man whom he brought before the London Pathological Society. All stages of the disease, from minute solid growths to large suppurating and sloughing masses, were present.

He thought it necessary, in consequence of the grave accusation cast against American pork by some of the European authorities, that he should say a few words upon the subject. He said that trichiniasis was with us a very rare disease indeed, in comparison with its frequent occurrence in continental Europe. In spite of the prohibitive edict against our pork in Germany, quite an endemic of trichiniasis had prevailed there of late. As there had been isolated cases reported with us, he would refrain from any attempt at defense, but would simply remark that the mortality from trichiniasis in this country, in comparison with Germany, would lead us most certainly to discriminate in favor of our product to that of the foreign—even if we did not attribute our comparative immunity to the more civilized manner in which we partook of it than the semi-barbarous fashion of eating it uncooked. French physicians, in the Academy of Medicine, of Paris, had already given their opinion that American pork was not so dangerous as the trichinophobist would have us believe, and recommended that the prohibition of its importation be removed.

As to therapeutics, while in past years it had been ignored to a great extent by many physicians and scientists, it had undoubtedly now assumed new features entitling it to a prominent position. He gave a list of some of the chief remedies which had found approval during the past year, such as kairine among the antipyretics; paraldehyde; the *Abrus precatorius*, the jequirity bean of Brazil; the salts of nickel, and especially its bromide; bismuth salicylate; nitro-glycerin; the chloride of gold and sodium, etc.; in connection with them mentioning the diseases to which they were applicable. Treating of antiseptic inhalations, he thought that the vast research in the field for micro-organisms as causative elements of disease, and the discoveries made therein, had given a new impetus to antiseptic treatment in every branch. Antiseptic inhalations for pulmonary disease had proved of value, whether the germ theory was sustained or not.

In concluding his address he directed the attention of those entering the profession to the necessity of thoroughly mastering the details of all its different branches; above all, that of general medicine before entering into any specialty; and spoke of the desire on the part of a few to form exclusive organizations, which he argued were highly detrimental, and denounced them severely, saying that medicine, to be beneficial to humanity, must be open to one and all, and, if its practitioners were to be excluded from medical societies and their meetings—not from a lack of knowledge and good standing—such societies had outlived their usefulness. Special studies might be made by physicians in certain directions, but the advantages of their research and study must be verified by their practical demonstration through the general practitioner. Without a thorough knowledge, specialism availed little. This powerful organization should represent every branch and specialty of medicine, and its knowledge should be open to all its members. We were all entitled to the benefits derived from associated investigations. Outside organizations on special subjects would detract from the inter-

est and advantages of our meetings, and the younger members, neglecting the general subject of medicine, dazzled by the apparent brilliancy of a select few, would wander forth to ultimately destroy their own usefulness. The American Medical Association was the representative body of the medical profession of this country, and had been organized and conducted by gentlemen who had grown gray in its service, and whose brows were adorned with chaplets most worthily won, not only at home but abroad. It was for them and for their fellow-members to control the means of disseminating our science, and not for a few, who, at best, formed but a spoke in the wheel of the triumphant chariot of our science. Our young men should learn that knowledge must come to them by the co-operation of their professional brethren from all parts of our country rather than from a few, who, in their exclusiveness, set themselves above the active members of the greatest and most humanitarian of all professions.

HONORARY MEMBERS.—DR. WATSFORD and DR. STEENS, delegates from the Canadian Medical Association, were made honorary members of the Association, and invited to take seats on the platform.

THE ADDRESS IN OBSTETRICS.—The chairman of the section in obstetrics and diseases of women, DR. T. A. REAMY, of Cincinnati, said that he would depart from the usual custom of giving a review of progress in the department, and would refer the members to current literature for the same. He read notes of 231 cases of laceration of the cervix uteri in which he had operated. Six of the operations had been followed by parametritis, perimetritis, or peritonitis. In 2 the symptoms were sufficiently severe to cause material delay in recovery, and one patient was confined to bed for three months. All finally recovered. In 170 cases the laceration was bilateral, in 30 unilateral. Of the latter, 23 were on the left side and 5 on the right side; 16 were stellate, in two of which there were four distinct lacerations. In 5 cases there was laceration of the posterior lip only, in 2 of the anterior lip only. In 80 cases the laceration was extensive. In 15 of the 80 the laceration extended to the cervico-vaginal junction on both sides; in 23 of the bilateral cases it extended to the cervico-vaginal junction on one side only. In 3 cases the rent extended to the internal os. In one of these cases the vaginal wall was also extensively lacerated, and the peritoneal cavity had probably been opened. The patient had been an invalid for three years. Twelve sutures were required on one side. The patient was restored to robust health within six months after the operation. In 167 cases a perineal operation was done. The anal sphincter was damaged in 15 cases; in 7 the recto-vaginal septum was opened up. In 26 cases he operated upon the cervix and the perineal body at the same sitting. In 5 of this series of cases he curetted the uterine canal at the same sitting. In none of the 5 cases did a single bad symptom arise. In 50 cases he operated upon the perineum subsequent to the operation upon the cervix. In not a single case did secondary hemorrhage occur after trachelorrhaphy. Hemorrhage during the operation was controlled by a stream of hot water. In only three cases was he under the necessity of using forceps. He had dispensed with sponges. He emphasized the importance of allowing free bleeding in most cases after denuding the surface. He practiced thorough denudation, cutting out all cicatricial tissue, and allowed free bleeding—points which were important in overcoming subinvolution. The form of delivery had been learned in only a few of the cases. In his opinion, the influence of laceration of the cervix in producing cancer had never been fully comprehended by any author. Dr. Emmet deplored the extent to which the operation was being done, but Dr. Reamy thought without just cause. With regard to the influence of the operation on ster-

ility, he knew of thirteen cases in which conception had occurred subsequent to the operation, delivery taking place at term. He had attended six of the patients in subsequent labor, and in none was there a fresh laceration. He believed the operation favored fertility and often cured sterility. In but two cases had it proved a failure, and in each of these its repetition was successful. In performing the operation the cervix should not be drawn down farther than could be avoided. Outline the denudation with a sharp knife, and cut the tissues included within the line with sharp scissors. He employed a needle shaped nearly like half a circle, with a very sharp point, armed with Chinese silk. The sutures were not cut off, but allowed to hang out, extending nearly to the vulva, for easy extraction. The vagina was washed out immediately after the operation with the return-current syringe, the nurse washed the vagina with warm carbolized water within an hour after the operation, and the syringe was not employed again for six days.

The paper was referred to the section in obstetrics.

DR. FREDERICK HORNER, a delegate from the Virginia State Medical Society, read some resolutions, but they were declared not in order.

VIVISECTION.—DR. HENRY SMITH, of Pennsylvania, then offered the following, which, after being warmly discussed by Dr. Keyser, of Philadelphia, and Dr. J. C. Dalton, of New York, were adopted with but one dissenting voice, that of a lady:

Whereas, It appears that an effort is being made to restrict by legislative action the practice of investigation in medical science by experiments on animals; and

Whereas, In the opinion of this association, such restriction is not needed for the guidance of medical men in their investigations, and would be an injury and a hindrance to the pursuit of medical knowledge and the improvement of the medical art; therefore,

Resolved, That a standing committee of seven, with power to increase its number, be appointed by the President of the association, to be known as the "Committee on Experimental Medicine of the American Medical Association," charged with the duty of opposing, by all legitimate means, any interference with the progress of medical science by unwise or illegitimate legislation.

The PRESIDENT appointed the following gentlemen as said committee; Dr. William Pepper and Dr. James Tyson, of Pennsylvania; Dr. Judson, of Maryland; Dr. J. C. Dalton and Dr. Austin Flint, Jr., of New York; and Dr. John S. Billings, of the army.

ADVERTISING BY PHYSICIANS.—DR. ATWOOD, of St. Louis, on the part of the St. Louis Medical Society, memorialized the association in a paper earnestly decrying the practice of physicians connected with medical colleges, dispensaries, etc., of taking advantage of their official position to advertise themselves, although in an indirect manner. The paper, according to the rule, was referred to the Judicial Council.

THE STANDARD OF MEDICAL EDUCATION.—DR. D. BENJAMIN, a delegate from the Maryland State Medical Society, offered the following resolution:

Resolved, That this association earnestly urges upon all American medical colleges the necessity of elevating the standard of medical education, at least so far as to require a preliminary examination, a three-years course, a registry of attendance, and practical demonstrations of diagnostic skill.

The motion was seconded by Dr. BRODIE, of Michigan.

DR. GARNETT said the ground had been covered in the President's address, and he moved that the resolution be laid on the table. The President put the motion to lay on the table, and it was declared carried; but earnest objection was made to

"squelching" attempts to elevate medical education, and it was stated that the President had neglected to call for the nays. The President then again put the question, a rising vote was taken, and the motion to lay on the table was declared lost. The original motion was then earnestly supported by Dr. HENRY, of New York, and, after some further discussion, was put, and carried by a large majority. The President then stated that it was an oversight on his part if he had not called for the nays on the motion to lay the resolution on the table, and added that he was in sympathy with the original motion as adopted.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.—Dr. PACKARD, of Philadelphia, moved that certain amendments to the constitution and by-laws, of which notice was given at the meeting at St. Paul, be called up and acted upon after the reading of the addresses to-morrow. Carried.

The Secretary read an invitation from Professor Baird, of the United States Fish Commission, for the members of the association to visit the institution and observe the hatching of shad.

Thursday—Third Day.

The meeting was called to order by the President at 10 A. M., and prayer was offered by the Rev. W. Paret.

VACANCIES IN THE BOARD OF TRUSTEES were filled by appointment by the President as follows: Dr. E. D. FERGUSON, of New York; Dr. W. T. BRIGGS, of Tennessee; Dr. J. E. REEVES, of West Virginia; Dr. J. W. PREWITT and Dr. GEORGE PECK, of the navy; and Dr. D. A. STAMMONT, of Kansas.

THE ARMY MUSEUM AND LIBRARY.—The committee appointed to urge the provision of commodious and fire-proof buildings for the Army Medical Museum and the Library of the Surgeon-General's Office reported that a memorial to Congress recommending that \$5,000 be appropriated for the improvement of the museum had not been acted upon in the committee of Congress; but that the committee had reported favorably to an appropriation of \$10,000 for the library. The report was accepted, and the committee continued.

GOVERNMENT PROVISION FOR SCIENTIFIC RESEARCH.—Dr. GEORGE M. STERNBERG offered the following resolutions, preceded by certain preambles:

Resolved, That we earnestly petition the Congress of the United States to make suitable appropriations for the prosecution of scientific researches relating to the causes and prevention of the infectious diseases of the human race, to be expended under the direction of the National Board of Health; and that a permanent detail of one medical officer of the army and one of the navy be authorized for the prosecution of researches of this nature.

Resolved, That a committee of five members of this association be appointed to present copies of these resolutions to the Speaker of the House of Representatives, to the President of the Senate, and to the chairmen of the Committees on Public Health of the House and of the Senate.

The resolutions were adopted, and the President appointed the following-named gentlemen to constitute the committee: Dr. STERNBERG (Chairman), Dr. ALBERT L. GHION, Dr. I. M. HAYS, Dr. J. C. DALTON, and Dr. J. E. REEVES.

CREMATION.—Dr. KELLER, of Arkansas, offered some resolutions on this subject, but was ruled out of order.

THE SPECIAL COMMITTEE ON THE PRESIDENT'S ADDRESS.—Dr. BILLINGS, the chairman, read a report, and offered resolutions to the effect that a committee of seven, of which Dr. Austin Flint, Sr., should be a member, be appointed by the President, whose duty it should be to extend, in behalf of the medical profession of the United States, to the International Medical Congress about to meet at Copenhagen, a cordial invitation to appoint the next meeting of the International Congress at Washington, for

the year 1887; also, that the committee should have power to elect its own officers and an executive committee to make suitable arrangements for the congress; the committee to have power to increase its number, and to draw upon the association for a sum not exceeding five hundred dollars. The report was adopted.

THE REPORT OF THE BOARD OF TRUSTEES; THE ASSOCIATION'S JOURNAL.—The Chairman of the Board of Trustees, Dr. J. M. TONER, of Washington, read a report which recounted at some length the financial condition of the association during several years past, and the steps that had been taken toward founding a weekly journal. The Treasurer's report was also included. It was believed that at the end of the year there would remain in the treasury, over and above expenses, including the editor's salary, five hundred dollars. It was thought that the rule relating to advertising in the journal, which had been strictly adhered to, had lessened the receipts. As now published, the journal gave six times the amount of reading matter in the course of a year that had been contained in a volume of the "Transactions" as published before, and it was thought that, the financial state of the journal having been found safe, it would prove even of greater value the coming year.

THE EDITOR'S REPORT, included in the report of the Board of Trustees, was made by Dr. N. S. DAVIS. It stated that calculations had at first been made on the basis of 2,500 subscribers, but that the actual circulation had been 3,436, of which 3,271 were among members and subscribers. The advertising had been slowly increasing, and the whole amount received from this source was estimated at \$3,000. The total income for the year had been \$18,547.50; and, after all expenses had been paid, it was thought there would remain a balance of \$500 at the end of the year. Dr. Davis believed that the financial condition of the journal was such as to enable him, should he continue to be the editor for another year, to widen its scope of usefulness by engaging correspondents in more of the large cities, and to justify him in devoting more time to its editorial management.

Dr. TONER then resumed the reading of the report of the board, which stated that the journal had, in its opinion, been conducted with economy, ability, and judgment, the best interests of the profession being kept in view, and its dignity maintained with rare discretion; and it was confidently expected that the experience gained during the past year would enable the editor to greatly improve the journal. Dr. Toner read a letter from Dr. Davis, received in April last, offering his resignation as editor of the journal at the end of the quarter, because he wished to be relieved of an onerous amount of labor on the one hand, and, on the other, because he desired to free the board from all personal considerations connected with questions of future policy. The members of the board, with but one dissenting voice, had requested Dr. Davis to continue in the editorship for another year, and Dr. Davis had replied that the same motives which had led him to yield to the wishes of the board when it first requested him to accept the editorship would lead him to comply with their request again, but that he positively could not serve longer than the year. The board had received proposals from publishers in cities in different sections of the country to publish the journal, but none of them were so reasonable as that of the firm that now had charge of the publication, and the contract with that firm had therefore been renewed.

Dr. PACKARD, of Pennsylvania, offered a minority report, and stated that he had been given to understand that the financial condition of the journal was straitened, and that for that reason the editor had not drawn any of his salary. In his opinion, the journal did not approach in any way to the standard

which the organ of the American Medical Association should reach. He was aware that there were difficulties in the way of starting a journal of this kind, but the defects of the journal of the association had not become less marked during the nine months of its existence. The object of such a journal should be not simply to spread out the minutes of the association over one year—it should be a wide-awake, high-toned periodical in every respect, and not a sectional or partisan organ of the association. Such a journal could be carried on only by a thoroughly trained corps of editors, and at a place where there was access to medical libraries, and where the best auxiliary work could be obtained, such work being liberally paid for. He therefore recommended that the resignation of Dr. Davis as editor be accepted, and that the publication of the journal be transferred to some eastern city, Washington, Philadelphia, or New York.

A motion was made that the minority report be laid upon the table. The President ruled that the majority report should first be acted upon. An appeal having been taken and sustained, the motion to lay the minority report on the table was acted upon. Dr. Beach, of Ohio, called for the ayes and nays. Pending the arrival of the secretary's list of the names of the delegates, the nominating committee reported, after which the secretary announced that the motion to lay the minority report on the table had been carried—ayes, 191; nays, 74. A motion to adopt the majority report was then put and carried.

OFFICERS FOR THE ENSUING YEAR.—The Committee on Nominations reported as follows, through its chairman, Dr. HOOPER: *President*, HENRY F. CAMPBELL, of Georgia; *First Vice-President*, J. S. LYNCH, of Maryland; *Second Vice-President*, S. D. MERCEUR, of Nebraska; *Third Vice-President*, J. W. PARSONS, of New Hampshire; *Fourth Vice-President*, H. C. GHENT, of Texas. The next meeting to be held in New Orleans, beginning the last Tuesday in April, 1885. *Members of the Judicial Council*: J. K. BARTLETT, of Wisconsin; J. H. MURPHY, of Minnesota; J. M. TONER, of the District of Columbia; WILLIAM BRODIE, of Michigan; H. D. HOLTON, of Vermont; A. B. SLOAN, of Missouri; — ULRICH, of Pennsylvania; and W. M. BEACH, of Ohio. *Secretary*, W. B. ATKINSON, of Pennsylvania; *Assistant Secretary*, W. H. WATKINS, of Louisiana; *Treasurer*, R. J. DUNGLISON, of Pennsylvania; *Librarian*, — KLEINSMIDT, of the District of Columbia. *Chairmen and Secretaries of Sections*: *Medicine*, H. D. DIDAMA, N. Y.; G. M. GARLAND, Mass.; *Obstetrics*, R. S. SUTTON, Pa.; J. T. JELES, Ark.; *Ophthalmology and Otolaryngology*, J. A. WHIT, Va.; EUGENE SMITH, Mich.; *Surgery and Anatomy*, DUNCAN EVE, Tenn.; C. B. KING, Pa.; *Diseases of Children*, J. L. PAPE, Tex.; S. S. ADAMS, D. C.; *State Medicine*, E. W. SCHAUFFLER, Kad.; J. N. McCORMICK, Ky.; *Oral and Dental Surgery*, A. W. HARLAN, Ill.; J. E. MEARS, Pa. *Trustees of the Journal*: H. F. CAMPBELL, Ga.; J. H. PACKARD, Pa.; L. CONNOR, Mich. *Chairman of the Committee on Necrology*, J. M. TONER, D. C. *Chairman of the Committee on State Medicine*, J. A. DIBRELL, Sr., Ark.

THE COMMITTEE ON METEOROLOGY.—Dr. N. S. DAVIS, Chairman of the Committee on Meteorological Conditions and their Relations to the Prevalence of Acute Diseases, read a report. The observations regarding acute diseases and their relations to meteorological conditions had not been numerous, owing to the fact that those who saw much of acute diseases had not taken an interest in the matter. The report was accepted, with a recommendation for its publication in the journal.

THE COLLECTIVE INVESTIGATION OF DISEASE.—Dr. DAVIS reported, with regard to the Collective Investigation of Disease Committee, that a proposition from a similar committee of the British Medical Association be accepted—that a central general committee of this association, consisting of seven members, be

appointed by the President, to carry into effect the plan proposed, with power to appoint a sub-committee in each State, either directly or through the State societies, to correspond with the Committee on Collective Investigation of the British Medical Association, and to report annually to this body; and that a sum not exceeding \$300 be appropriated for the use of the central general committee, to inaugurate and prosecute the work intrusted to it. The report and the recommendations contained in it were adopted.

A REPORT FROM THE JUDICIAL COUNCIL stated that, in the matter of Dr. B. W. Day, it had been unanimously decided that the new testimony offered did not warrant the reopening of the case. In the cases of Dr. Good, of Pennsylvania, and Dr. Sherman, of Ohio, whose seats had been contested, the former was not admitted, but the credentials of the latter were accepted.

THE ADDRESS IN SURGERY.—By permission, the address was read by title only. It was on the effects and results of operations for the relief of gunshot wounds of the small intestine.

Friday—Fourth Day.

The meeting was called to order by the President at 9.30 A. M. **VIVISECTION.**—Dr. DALTON, chairman of the committee regarding experimentation on animals, offered the following:

Resolved, That this association desires to express its earnest conviction that experimentation on animals is most useful to promote medical science, and can be intrusted only to members of the medical profession.

Resolved, That the committee be continued. Carried.

THE BOARD OF TRUSTEES.—A question arose whether nominations to fill vacancies in the Board of Trustees should be filled by the special committee on the trustees or by the general nominating committee.

Dr. FERGUSON, chairman of the special committee, offered a resolution to the effect that the committee approved of the nominations which had been made by the nominating committee—namely: Dr. Campbell, Dr. Packard, and Dr. Connor. Carried.

Dr. GRISSOM made a motion declaring it to be the sense of the meeting that the trustees should be nominated by the nominating committee. Carried.

THE COMMITTEE ON THE PRESIDENT'S ADDRESS reported, through Dr. DAVIS, its chairman, that no explanation regarding the code should be made without deliberation. Dr. Davis personally offered the following:

Whereas, Persistent misrepresentations have been and are being made concerning certain provisions of the Code of Ethics,

Resolved, That the President appoint a committee of five permanent members, to report at the next meeting of the Association such explanatory declarations on the subject as the committee may deem proper. Carried.

The Committee on Nominations changed the officers of the section in oral and dental surgery to W. W. ALLPORT, President, and E. C. BRIGGS, Secretary.

THE REGULATION OF IMMIGRATION.—Dr. ROBERTS moved the adoption of the following, which had been offered by Dr. Pratt, and adopted, in the section in State medicine:

Resolved, That we earnestly urge upon Congress more efficient legislation on emigration, so as to exclude from our soil the defective classes of all nations.

Resolved, That the chairman of the section report this to the association for adoption.

The President declared the resolutions out of order at present.

THE INTERNATIONAL MEDICAL CONGRESS.—The following permanent Committee on the International Medical Congress was

appointed: Dr. HAYS, Dr. SAYRE, Dr. JOHNSON, Dr. ENGELMANN, Dr. BROWN, Dr. BILLINGS, and Dr. CAMPBELL.

MEDICAL EDUCATION.—Dr. VON KLEIN, of Ohio, gave notice of proposed amendments to the by-laws, and offered the following resolutions:

Resolved, That no person who shall hereafter graduate from a college where an educational test is not a prerequisite to admission shall be a delegate to the association.

Resolved, That all delegates shall present as a part of their credentials a certificate, from the county or State society they represent, showing from what college and when they graduated, excepting delegates from the army and navy.

OFFICERS OF SECTIONS.—Dr. PRATT proposed an amendment providing that each section should nominate its own chairman and secretary.

THE PUBLICATION OF THE MINUTES.—Dr. PRATT moved that the publishers of the journal be requested to publish in pamphlet form the minutes of the Association, with the constitution and by-laws, for distribution to members at the next session. Carried.

THE REGISTRATION.—Dr. BRODIE offered resolutions to facilitate the registration of delegates. Carried.

Dr. ROBERTSON moved resolutions urging Congress to provide for the Museum of Hygiene. Carried.

It was moved that the nominating committee be not allowed to nominate any of its own members. Laid over one year.

Dr. ROBINSON brought up Dr. Pratt's resolutions on defective immigrants, and moved to lay them on the table. Lost. The resolutions were then adopted.

The Chairmen of the Sections in Ophthalmology and Otolgoy, Diseases of Children, and Oral and Dental Surgery read their addresses by title, and they were referred to the publication committee.

Dr. TONER, of the Committee on Necrology, reported that the notices of deceased members had been published during the year.

On motion, the secretaries of sections were allowed to report directly to the permanent secretary.

Dr. FRANZONI offered resolutions that members should seek to obtain from their States laws elevating medical education. Adopted.

Dr. SEILER proposed an amendment to divide his section into two, namely: 1. Ophthalmology; 2. Otolgoy, laryngology, and rhinology.

THE TREASURER'S REPORT showed a balance of \$2,212. On motion, the annual dues were continued at five dollars.

THE LIBRARIAN'S REPORT was read in part.

Dr. GREEN, of Buffalo, offered resolutions urging Congress to provide for the completion of the third volume of the "Medical and Surgical History of the War of the Rebellion," and to issue a new edition of the entire work at cost. Adopted.

Dr. BEACH offered a resolution urging Congress to take action to exterminate pleuro-pneumonia among cattle. Adopted.

THE PRESIDENT-ELECT was introduced by the President, and made appropriate remarks.

On motion of Dr. BRODIE, it was resolved that the trustees of the journal secure a stenographer at each meeting.

Dr. VON KLEIN offered resolutions abolishing the practice of opening the sessions with prayer. Lost unanimously.

A resolution to drape the next issue of the journal, in honor of the late Dr. Gross, was referred to the publication committee, with power.

A resolution against members signing their names to recommendations of proprietary medicines and mineral waters was carried.

Resolutions were received from the West Philadelphia Medi-

cal Society condemning the efforts of mercenary men to destroy the code of ethics. Dr. WOODBURY moved they be laid on the table; seconded by Dr. Seiler. Lost. The resolutions were referred to the Judicial Council.

Resolutions urging legislation to compel the labeling of chlorate of potash and other like articles as poisons were adopted.

Resolutions from the St. Louis Medical Society, against advertising one's relations with a medical college, were referred to the Judicial Council.

Dr. GHON offered a resolution favoring the erection of a monument in Washington to the memory of Dr. Rush; a committee of seven to be appointed by the President.

Dr. BRODIE moved a vote of thanks in general to the people of Washington.

The President tendered his thanks for the kindness and forbearance shown him during the meeting.

The meeting then adjourned.

NEW YORK SURGICAL SOCIETY.

Meeting of April 22, 1884.

CHARLES MCBURNEY, M.D., Vice-President, in the chair.

(Concluded from page 504.)

CALCULUS REMOVED BY LITHOLAPAXY.—Dr. LITTLE also presented a specimen of vesical calculus which he had removed March 22d from a patient, sixty-six years of age, who presented himself at the Post-Graduate Medical School with symptoms of enlarged prostate and of stone in the bladder. On introducing a sound, he touched a stone without difficulty. The patient was sent to St. Luke's Hospital, where he was etherized and Dr. Little made an attempt to seize the stone and crush it. After working three quarters of an hour he touched it with the sound, but was unable to seize it with the lithotrite. The bladder was, therefore, washed out with Thiersch's boro-salicylic solution, and further operative procedure discontinued. No bad symptoms followed the operation. Two weeks afterward he again etherized the patient, and, after half an hour's manipulating, came in contact with the stone, seized it, but could not retain it in the grasp of the instrument, and was unable to find it again. He then washed out the bladder with the same solution as before. No reaction followed, and the patient was much better after than before the operation. A week later he again tried to seize the stone, succeeded in catching it with a grasp of about three quarters of an inch in diameter, crushed it, and, after that, broke up the separate fragments, without difficulty, removing them with the evacuator. The patient made a good recovery. On examining the fragments, he found that the stone was a round, flat one, and this was probably the reason why he had failed to grasp it with the lithotrite at the previous operations.

VESICAL CALCULUS REMOVED FROM THE BLADDER OF A WOMAN BY LITHOLAPAXY.—Dr. LITTLE also presented fragments of a stone which he had removed from the bladder of a woman, sixty-five years of age, accompanied by the following history, furnished by Dr. William R. Larkin, acting house surgeon to St. Vincent's Hospital:

"Her father passed at frequent intervals small phosphatic calculi *per urethram*. The rest of the family were always very healthy. The patient states that she has always been healthy until two years ago, when she began to experience some difficulty in voiding her urine, especially in cold or inclement weather. The urine passed was slightly turbid and gradually grew more and more cloudy. Twelve months ago she had acute retention, necessitating catheterization. Three months ago she had a second attack, and was relieved by the catheter, and since that date she has had her urine drawn at frequent intervals. Since her second acute attack of retention she has passed blood and an

abundance of mucus. She states that when she first noticed the trouble caused by urination, two years ago, she had also frequent attacks of severe lancing pain, especially marked and intensified on micturition. The pain was referred to the bladder, radiated down the thighs to the knees, and had gradually increased in intensity so that the patient dreaded to pass her water. On admission to St. Vincent's Hospital the patient looks careworn, her face is pale, her pulse is rapid but strong, her appetite and general condition are quite poor, and she suffers from loss of sleep. On examination, a vesical calculus, rather large and somewhat soft, was found. A day was appointed for its removal, but in the mean time a painful carbuncle appeared on the right buttock, in consequence of which the operation was postponed. On April 5th the patient was anesthetized and litholapaxy successfully performed. No difficulty was found in seizing the stone. A short lithotrite (Thompson's), belonging to Dr. George A. Peters, was used. This was much easier managed than the long instrument for the male bladder. A straight evacuating catheter, No. 29 (F.), was introduced, and the fragments were removed by Bigelow's evacuator. Before the catheter was introduced the urethra was slightly dilated by means of Dr. S. D. Powell's four-bladed dilator. After the operation the bladder was thoroughly washed out with a solution of boro-salicylic acid and the patient put to bed. The subsequent progress of the case was entirely favorable. Two weeks after the operation the patient left the hospital free from all symptoms, and having complete control over her bladder."

Referring to the case of the man, Dr. Keyes said he had in several instances experienced difficulty in attempting to pick up a small flat stone with an instrument having the double curve of Bigelow. He thought it was impossible with the patient in position to pick up a small, flat piece of stone from the floor of the bladder with a lithotrite that had a double curve in cases in which the *bas-fond* of the bladder was deep and precipitous. He had had constructed an instrument without the extra curve in the female blade, and in which the blades came very close together at the tip, with the female blade very thin, and with this he had been able to pick up a thin piece of stone from the floor of the bladder as well as from any other place. In cases of very large prostate symmetrically developed, and a fairly large calculus, an instrument with the extra curve might be of some advantage.

Dr. LITTLE said that the stone was finally seized with a Thompson's lithotrite without the double curve. He also stated that at the two attempts he was unable either to seize or to find the calculus. This case also illustrated, what he had seen in several cases when the patient was suffering from symptoms due to enlargement of the prostate as well as from stone, that the manipulations necessary to the operation of litholapaxy relieved the prostatic symptoms. In this case the patient's symptoms were greatly improved by the attempts to find the stone. This he thought was explained by the dilatation of the urethra and the neck of the bladder by the introduction of the evacuating catheters and the large lithotrite, and by the thorough washing out of the bladder. In a case in which he operated last spring, at Woodstock, Vt., the patient, a man seventy-seven years of age, had enlarged prostate, and had been compelled to use a soft catheter every hour for nearly three months. Immediately after the stone was removed, which was a large one, measuring an inch and a quarter in diameter, he was able to hold his water for three hours, and on the third day he held it for six hours. This condition lasted for over two months; the prostatic symptoms then reappeared, and the use of the catheter again became necessary.

Dr. BRIDDON had seen two cases of impacted calculus in the urethra. The first occurred in his service in the New York Dispensary and in a child two years old. The patient had symptoms of retention of urine, and the bladder was distended upward to a point midway between the pubes and the umbilicus.

A catheter was introduced and the sensation of passing over a foreign body was experienced in the deeper portion of the urethra, but the instrument entered the bladder and emptied it, and then came in contact with a stone. He appointed the following day for an operation, and the late Dr. Buck was present to assist him. Dr. Briddon retracted the foreskin and discovered that there was a calculus in the urethra, and it was removed. On introducing the staff into the bladder, another calculus was touched, and was removed by perineal incision.

The second case occurred in a child one year old, in his service in the Presbyterian Hospital, within the last year. Retention had occurred two or three times before his admission, and, when he saw the patient, retention was quite pronounced. On the introduction of the catheter a foreign body was found in the deep part of the urethra, but there was no difficulty in passing the instrument beyond the obstruction. In that case he cut the child on the following day and removed a small calculus.

Dr. BRIDDON also referred to the case of a man in whose bladder he found a calculus with a cocks-pur-projection, which he broke off with his finger, and after that was able to feel the remaining portion of the calculus in a sac in the bladder, but was unable readily to get it out. After considerable exertion with a small scoop, he succeeded in tilting out the calculus, which was of about the size of a filbert. The man had returned within the last two or three weeks to the Presbyterian Hospital with another calculus in the bladder. He performed litholapaxy, but had considerable difficulty in catching the stone. He was at work with the instrument in the bladder at least three quarters of an hour, but no reaction whatever followed the operation.

COMBINED ŒSOPHAGOTOMY.—Dr. HENRY B. SANDS exhibited a specimen of stricture of the œsophagus, removed from the body of a child upon whom he had performed the operation of combined œsophagotomy with a fatal result.

The patient was a girl, two years of age, who was admitted into the Roosevelt Hospital on January 10, 1884, on account of a cicatricial contraction of the œsophagus, which had followed the accidental swallowing of a small quantity of boiling lye, ten months previously. Considerable inflammation was caused by the action of the caustic fluid, and easy deglutition was never re-established. Two months after the accident the child was extremely weak and emaciated, but, by the careful administration of liquid food, consisting of milk and raw egg, her condition was greatly improved. Treatment by dilatation was begun in October, 1883, but was soon afterward relinquished as impracticable. When admitted into the hospital, she was etherized and carefully examined. Nothing abnormal could be discovered by inspection of the pharynx, or by introducing the forefinger, the tip of which passed below the level of the cricoid cartilage without detecting any constriction. Exploration with elastic urethral bougies, however, revealed the presence of an œsophageal stricture admitting a bougie 2 mm. in diameter, which was felt to be firmly grasped. Larger instruments were arrested at the orifice of the stricture, which was situated at a point 13 cm. from the central incisors, and presumably just below the upper edge of the sternum. Considerable sickness and nervous depression followed the administration of ether, and the subsequent attempts to dilate the stricture were made without the use of an anesthetic. These trials were made at intervals of from one to three days, except during a period of a week, when mechanical treatment was suspended on account of a sharp attack of diarrhea which rapidly reduced the patient's strength.

Her weight, which at the time of her admission was 22 lbs. 13 oz., fluctuated during the following two months, and once diminished upward of two pounds in the course of a week. At the end of two months, however, she had gained 1 lb. 7 oz. Meanwhile, in spite of persevering attempts at dilatation, the stricture had become narrower and at last impassable. Soon after this treatment was begun, a bougie 3 mm. in diameter was passed through the stricture and into the stomach; at a later period smaller instruments had to be employed, and

these seemed to cause an aggravation of the dysphagia. Three days before the operation, deglutition ceased, and the child's condition became critical. Dr. Sands decided to resort to combined œsophagotomy, which he performed on March 11th, in the following manner: Ether was administered, and the patient's head was extended and rotated toward the right side, a wine-bottle, wrapped in a towel, being placed under the neck, in order to favor extension, as the neck was very short. An incision, extending from the level of the left sterno-clavicular articulation to that of the middle of the thyroid cartilage, was made along the groove between the windpipe and the sterno-mastoid muscle. The inner edge of the latter being exposed, the muscle, together with the carotid sheath and its contents, was drawn outward by a blunt retractor, while the omo-hyoid muscle was detached and held upward. The dissection was then continued in the direction of the œsophagus, being carried along the outer edge of the thyroid gland and tracheal muscles. On dividing the deep fascia, previously held up and rendered tense by two toothed forceps, the œsophagus was readily uncovered, when it was found to be dilated and hypertrophied. It was opened by cutting with a scalpel between two forceps, an elastic catheter having been previously introduced through the mouth. The catheter was then withdrawn, and the margins of the œsophageal wound being held apart by loops of silk, exploration by means of bougies revealed a tight stricture, situated 2 cm. below the episternal notch. After several trials this was passed by a filiform silver probe, two thirds of a millimetre in diameter. On withdrawing the probe, it was found possible to introduce a narrow grooved director, along which a slender pre-probated eye-knife, such as is employed in slitting up the tear-duct, was guided to the orifice of the stricture, when two shallow incisions were made, one being directed forward and toward the right, and the other forward and toward the left. Neither incision exceeded half a centimetre in length, and very little resistance was offered to the knife. No hæmorrhage followed, and, when the knife was withdrawn, it was found possible to introduce an elastic catheter 4 mm. in diameter, which was tied in the wound, the latter being covered with a dressing of iodoform gauze. The operation was almost free from hæmorrhage, and neither of the thyroid arteries was divided.

March 11th, 11 P. M.—Child very restless and weak. Four ounces of milk injected through tube into stomach.

12th, 8.30 A. M.—Temperature, 103.5° F.; pulse, 135; respiration, 38. Patient has passed a bad night, and has failed to rally. Injected milk, 3 iv; brandy, 3 j. During the day a small quantity of milk and brandy was injected every hour, with the occasional addition of a drop of laudanum. At 6 p. m., temperature, 104°; pulse, 180; respiration, 48.

13th.—Patient continued to sink during the night, and died at 4 A. M.

Autopsy, twelve hours post mortem.—The œsophagus was found to be the seat of an indurated tubular stricture 3 cm. in length, the upper end of which was 9 cm. above the cardiac orifice. The œsophageal wall corresponding to the stricture varied in thickness from 3.5 to 4 mm., the caliber being 4 mm. in diameter. Above the stricture the œsophagus was dilated to a caliber of 16 mm. in diameter, while below the diameter was 11 mm. Above the stricture the œsophageal wall was thickened to the extent of 2.5 mm.; below, it measured 1.5 mm.

The effects of the action of the caustic were visible throughout the entire length of the œsophagus, the mucous membrane being in many places opaque, white, thickened, and adherent to the muscular coat. Of the two incisions made at the entrance of the stricture at the time of the operation, only one had left a trace; this was found to be about 4 mm. in length, and extremely shallow, hardly extending beyond the mucous membrane. The peri-œsophageal tissues at the seat of stricture were healthy and uninjured, and no lesions besides those described were found in the thoracic or abdominal organs. An examination of the specimen showed how slight an incision would sometimes suffice to render permeable a stricture which had before proved impassable; and it was greatly to be regretted that the patient had not sufficient strength to survive the shock of the operation, from which she never rallied.

Dr. SANDS also presented a second specimen of stricture of the œsophagus, obtained post mortem from a boy thirteen years

old, who died from peritonitis, following gastrostomy, and upon whom an unsuccessful attempt had been made to perform combined œsophagotomy.

The patient entered the Roosevelt Hospital, February 14, 1884, when he gave the following history: About six weeks previously he was submerged in a vat containing a solution of caustic soda. The injury was severe, causing numerous ulcers of the skin, loss of sight in both eyes, and a stricture of the œsophagus. Soon after the accident the mucous membrane of the mouth began to desquamate, and a week elapsed before he could swallow liquids. A fortnight later he was able to swallow solid food, although deglutition was painful. Three months before admission, dysphagia reappeared, and gradually increased until nothing but liquid could be swallowed. Lately treatment by dilatation had been resorted to, but without benefit. When admitted he weighed seventy-five pounds, and was pale and thin. Examination of the œsophagus revealed a stricture, through which no instrument could be made to pass, situated eleven inches from the central incisors and nearly opposite the middle of the sternum. On the following day a filiform whalebone bougie was introduced through the stricture and beyond it, as far as the stomach. Dilatation was carefully tried nearly every day during the next four weeks, but without success. On one occasion, soon after beginning the treatment, the stricture admitted a flexible catheter 3 mm. in diameter. Usually only smaller instruments could be passed, or the stricture was found to be impassable. By careful feeding, the patient's weight was increased six pounds; it afterward diminished slightly as deglutition became more difficult.

March 18th.—Operation. Ether. Head extended, rotated to the right, and supported by a hard round pillow placed beneath the neck. Incision three inches in length, extending from the level of the middle of the thyroid cartilage to a point opposite the sterno-clavicular articulation. Inner edge of sterno-mastoid exposed, and omo-hyoid divided, to obtain more room. Superior thyroid artery divided between two ligatures. œsophagus exposed, and opened after being raised by two forceps, a flexile catheter having been previously introduced through the mouth. Margins of wound in œsophagus held apart by loop of silk, while attempts were made to pass the stricture, which was situated three inches below the episternal notch. All these attempts proved unavailing, as no instrument could be made to engage in the stricture, whether inserted through the mouth or through the œsophageal wound. Silver and whalebone probes, including the finest, and elastic and filiform bougies, were tried in turn without success. Oil was injected into the œsophagus, and an endoscopic tube was passed down to the seat of stricture, in the hope of rendering it permeable, but in vain. Wound irrigated with bichloride solution and dressed with iodoform gauze, the edges of the œsophageal incision having been previously stitched to the integument, with the view of permitting subsequent exploration.

21st.—Patient fed since last date by rectal enemata, and is in fair condition. Stricture still remains impermeable to instruments inserted through wound, although yesterday it permitted the passage of a fine whalebone bougie (tip 5 F., shaft 8 F.), introduced through the mouth. It was decided to perform gastrostomy.

Operation.—Ether. Incision an inch and a half long, parallel to and a finger's breadth below inferior margin of thorax on left side. Outer border of rectus divided to extent of three eighths of an inch. Bleeding having ceased, peritonæum divided, forefinger passed into abdominal cavity, readily recognizing anterior wall of stomach. This, being drawn forward, was held in position by a loop of stout silk thread, embracing peritoneal and muscular coats. Stomach fastened to abdominal wall by thirteen interrupted silk sutures, introduced through entire thickness of latter, but not penetrating the gastric mucous membrane. Operation performed with antiseptic precautions. Irrigation with solution of mercuric bichloride, 1 to 2,000. Silk sutures prepared according to Kocher's method; iodoform-gauze dressing. Patient not being very weak, it was decided to postpone opening stomach so as to favor adhesion. Nutrient enemata (Leube's beef extract), with a tablespoonful of whisky, every four to six hours.

24th.—Surface of wound in neck looks gray and sloughy. Patient seems to be losing strength. 9 P. M.: Removed dressings from abdo-

men and found wound apparently in excellent condition. Opened stomach with a tenotomy knife, making wound very small, equal only to width of blade. First attempts to puncture were unsuccessful, the knife passing between coats of stomach and not penetrating its cavity. Introduced into stomach a piece of soft-rubber catheter, No. 10 F., which filled the aperture completely, and prevented, at the time, leakage of gastric fluids. The puncture, made without ether, caused no pain. Catheter tied in position and plugged by a wooden peg. Iodoform dressing renewed. Four ounces of milk injected into stomach every four hours. Rectal enemata continued every six hours.

26th.—Neck wound in bad condition. Applied carbolized oil (1 to 12) and iodoform.

27th.—Abdominal wound looks badly, most of the stitches having cut through, and the granulations being bathed in secretions which have escaped from the stomach alongside the tube. Inserted a longer flexible catheter, No. 19 F., and packed wound carefully with iodoform gauze. Patient receives by the stomach three raw eggs daily, and eight ounces of milk every four hours.

28th.—Weaker; slight pain in abdomen; no tympanitis. Wound of neck continues sloughing, and emits a foul odor. Applied solution of chloride of zinc, 40 grs. ad ζ j.

30th.—Died at 11.55 A. M., having failed steadily and developed the symptoms of peritonitis since last date. Elevation of temperature, 101° to 106° F., was observed from the time of the first operation.

Post-mortem Examination showed an indurated stricture of the œsophagus at the point where it had been discovered during life. It measured about 8 mm. in length, and the thickness of the œsophageal wall corresponding to it was 4 mm. The entire mucous membrane of the œsophagus was blanched, thickened, opaque, and adherent. A bougie 3 mm. in diameter could be passed without difficulty through the stricture, just above which the mucous membrane was somewhat uneven and abraded, as if it had been injured by the instruments employed in attempting dilatation. No false passage existed, and the tissues surrounding the œsophagus were normal.

The peritoneal cavity contained a small amount of sero-purulent fluid, and the coils of small intestine were adherent to one another by recent lymph. The adhesions between the stomach and the abdominal wall at the seat of the artificial opening had partly given way, and the evidences of peritonitis were most marked in the neighborhood. The point at which the stomach had been perforated was situated 6 cm. from the pylorus. There was no evidence that the stitches had penetrated the gastric mucous membrane.

Dr. Sands was at a loss to explain his failure to pass the stricture at the time when he opened the œsophagus; but swelling of the mucous membrane, its uneven surface above the contracted orifice, and the lateral position of the wound in the œsophagus, suggested themselves as possible obstacles to success. He regretted his failure, especially in view of the limited extent of the stricture, which was well adapted for cure by internal division. He was inclined to attribute the fatal result of gastrostomy to the low vitality of the patient, which was illustrated not only by a lack of reparative action in the abdominal wound, but also by the unfavorable condition of the wound of the neck. Perhaps if the final step of the operation had been deferred to a later period, a better chance would have been afforded for firm adhesion between the stomach and the abdominal wall, but the increasing weakness of the patient seemed to indicate that further delay would probably cause death by inanition.

The VICE-PRESIDENT referred to a case which he had seen about a year before in a lady for whom aromatic spirits of ammonia had been prescribed. There was also standing near the bottle another bottle of the same size and shape which contained caustic ammonia, and one night she accidentally took a tablespoonful of the caustic ammonia solution, which gave her very great discomfort at the time, but no bad result whatever followed except destruction of the mucous membrane of the tongue and inside of the cheeks. He supposed the absence of serious results was due in part at least to the fact that only a

few minutes before she swallowed the caustic ammonia she had taken a considerable quantity of milk.

Dr. POST referred to a case in which a patient accidentally swallowed a teaspoonful of ammonia, causing great distress at the time, but from the effects of which he ultimately recovered entirely.

Dr. LEROY M. YALE referred to two cases, in each of which the patient had swallowed a drachm of ammonia without injury.

Dr. SANDS referred to the case of a jeweler who swallowed a mouthful of nitric acid, and died two or three days after admission to the hospital. At the autopsy it was found that the œsophagus for its entire length and a large part of the stomach were in a state of gangrene, the slough being quite deep and involving at least the entire mucous membrane. The mucous membrane in the neighborhood of the laryngeal aperture was thickened, but not sufficiently so to cause death from suffocation. The patient also had broncho-pneumonia in both lungs.

Dr. THOMAS M. MARKOE said he was inclined to think that the efforts made by Dr. Sands in his case, as he had had an opportunity to witness them, could not have done any mischief in the way of seriously bruising or otherwise injuring the mucous membrane of the œsophagus. He based this opinion partly on the fact that the manipulation was very carefully performed, and partly on the fact that the mucous membrane of the œsophagus did not easily receive injury. He was still more of this opinion, in view of a case in which he had operated for the removal of a foreign body, where the forceps, introduced from the mouth, was passed down on two successive occasions; a number of other instruments, large and small, were introduced; and the foreign body was seized several times and subjected to traction, with an amount of force which he feared had inflicted considerable injury. But at the autopsy no trace of the operation could be seen. At the time that Dr. Sands was operating he was inclined to the opinion that more force could have been used safely.

Dr. SANDS remarked that his idea was that the use of the whalebone bougie, which was kept up for several weeks early in the case, had possibly diminished the caliber of the stricture.

SECONDARY HÆMORRHAGE FOLLOWING FRACTURE WITHOUT INJURY TO THE ARTERY BY THE BONE.—Dr. STIMSON reported a case of secondary hemorrhage following fracture without direct injury to the artery, occurring in the case of a man, twenty-five years of age, who was admitted to Bellevue Hospital about the middle of March, with fracture of the right leg caused by being run over by a horse-car. The fracture was at the junction of the lower with the middle third; and there was considerable laceration of the integument upon the anterior portion of the leg. The bleeding at the time of his admission was slight. The wound was cleaned with the corrosive-sublimate solution, and through-drainage adopted. On the eighth day after admission a profuse hemorrhage occurred and the patient died a few hours afterward. At the autopsy, on exposing the anterior tibial artery, he found a ragged opening on its anterior surface one third of an inch long, and situated an inch and a quarter above the line of fracture, and immediately above this large ragged opening there was a small pin-hole opening. There was no clot in the vessel, the bone did not press upon it, and there was but little inflammation about it. The posterior tibial artery was thickened and discolored at the same level, and apparently undergoing an inflammatory process which might have terminated in thrombosis or ulceration, as had been the case in the anterior vessel, if the patient had lived longer.

Dr. MARKOE said that at one time he had taken pains to collect a number of cases of secondary hemorrhage after fracture, and in all of them, thirteen in number, he had found the

wound had been manifestly caused by the rubbing of the sharp edge of the bone, either of the fracture or of a necrosed portion, against the surface of the artery.

Dr. STIMSON remarked that in his case there was no possibility of injury occurring from either of these causes.

FIBRO-SARCOMA OF THE KNEE JOINT.—The VICE-PRESIDENT presented, in behalf of the PRESIDENT, a small tumor which had been removed from the knee joint, where it simulated a loose cartilage and was attached by a long pedicle. The tumor measured one inch and a half by one inch. It had been submitted to Dr. Peabody for microscopical examination, who made the following report:

"I have found no reason to change my mind regarding your knee-joint mass, and would only add that the spindle cells are so few in proportion to the fibrous tissue that I should suppose the prognosis to be rather that of a fibroma than of a sarcoma."

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of April 2, 1884.

CRITICISMS, FROM A CHEMICAL POINT OF VIEW, ON SOME FAVORITE PRESCRIPTIONS.—Dr. HENRY LEFFMANN read the following paper:

The few points that I present to the college this evening will include little that is absolutely new, but I think the time will not be entirely wasted, as I know that the prescription list of most of our drug-stores will give numerous examples of the violation of chemical principles here mentioned. My attention was called to this topic by my being shown by an apothecary a prescription calling for—

Syr. hypophosph.,

Tinc. ferri chlor.,

Acid. phosph. dil;

concerning which he said that in the proportions ordered he could never make the mixture up clear. I examined the precipitate, and found in it, as I had expected, a large proportion of the iron and other basic ingredients. This is a simple case of incompatibility. Turning the matter over in my mind, it has seemed to me that, while some attention is paid to cautioning students as to the general nature of incompatibility, very little or none is given, especially in the shallow chemical teaching of many medical schools, to the properties and qualities of chemical substances in their relations to the animal tissues, and the manner of administration. I present here, therefore, a brief consideration of a few well-known remedies.

Under the name of *colorless tincture of iodine* several preparations are used, depending for their popularity on the fact that they do not stain the skin. They are prepared by the use either of ammonia or of sodium sulphite or hyposulphite. They owe their particular property, or rather absence of property, to the neutralization of the iodine, and just to the extent that the iodine is decolorized is it to the same extent deprived of virtue. The free, active affinity of the iodine, to which its local action must be due, is destroyed in these preparations, and the destruction is not slow or uncertain, but in two of the methods mentioned it is sufficiently rapid and definite to be made the basis of a method of quantitative analysis. It is certainly difficult to see how any person could go so wide of simple chemical principles as to invent or employ this mixture.

Potassium chlorate, or, as it is still erroneously called by many, chlorate of potash, is a remedy concerning which extraordinary claims have been made, based upon most erroneous notions of its chemical qualities. It is employed in the laboratory as a source of oxygen; knowledge of this fact has led to its employment as an oxidizing agent in diseases which have

been supposed to express deficient oxidation. I have nothing to say here as to the clinical results obtained from potassium chlorate in any disease, although I believe it is much less in favor than formerly; but I enter a protest against any advocacy of its usefulness as an oxidizing agent. Under temperatures and conditions such as it meets with in the human system, it is one of the most stable of bodies, does not part with its oxygen or chlorine, and, indeed, will not begin to do so except under very high heat. I have found, by actual experiment, that ten grains of the salt kept for two hours at a temperature of 100° F. in contact with an artificial gastric juice did not develop oxidizing qualities sufficient to oxidize one sixtieth of a grain of phosphorus. This experiment is merely confirmatory of what everyday experience with the substance teaches.

Potassium permanganate has been more or less in favor with physicians for a score of years. It is well known as an oxidizing agent; its powers in this respect are well marked. It is as little suitable for internal administration for such purpose as the body just considered, but for an opposite reason. Its chemical properties are developed by almost every substance, and in the doses in which it is given it will be decomposed and rendered inert very shortly after being swallowed. Within a very recent period the salt has come into notice as a remedy for amenorrhœa, and great has been the tribulation of apothecaries. It has been given in pill form, and all the usual excipients have been unavailable. I have made a few tests of the permanganate pills now in the market, and I find, with regard to those made by one of the most reliable houses in this city, that the permanganate is all decomposed and converted into the insoluble manganese dioxide. The preparations of two other manufacturers, made up with some mineral excipient, probably kaolin, were in good condition, but, as soon as placed in a mixture of hydrochloric acid and pepsin, they began to decompose into insoluble manganese oxide. These pills vary in strength from one eighth to one grain; this small quantity of permanganate certainly must soon decompose in the stomach, and the only virtue which it can have is from the manganese itself, and, if this is effective, common sense would seem to suggest that the result could be best obtained by exhibiting some definite compound of manganese—such as the chloride or sulphate. When we consider the chemical relations of the salt, and the almost certain inertness of it in small doses, the gravity with which the learned English therapeutists, who recommended it in amenorrhœa, have discussed the possibility of its producing abortion becomes almost burlesque. I do not desire, of course, to impugn the clinical observations that have been recorded on this point, but I feel obliged to say that, if the insoluble and variable decomposition products of one eighth of a grain of potassium permanganate can affect the function of any one organ, then the difference between us and the apostles of the infinitesimal is small indeed.

I can not dismiss these two compounds, which owe their popularity to mistaken notions of their properties, without saying a word or two as to the exhibition of oxidizing agents. If rational therapeutics or physiological study indicates remedies of the so-called oxidizing class, then it will be found that no better agents are known to us than those which have long been in our hands. In nitric acid, nitro-muriatic acid, and chlorinated soda we have substances which are sufficiently stable to resist the organic bodies of the saliva and gastric juice, and are sufficiently active to give oxidizing effects if such can be obtained other than local action. I have grave doubts whether the nutritious fluids of the body can be oxidized by any method, but there can be no doubt whatever that such effect can not be attained by either a body—potassium chlorate—which yields its oxygen only at a red heat, or by one—permanganate—that decomposes the moment it touches any form of organic matter.

Some years since a correspondent in one of our medical journals gravely recommended the use of raspberry sirap to disguise the taste of potassium permanganate. It was, of course, entirely successful; the taste was destroyed, so was the compound.

Caffeine citrate is a remedy much in favor, and is a remarkable instance of how much physicians take for granted in the remedies they use. There is no caffeine citrate in the market, and it is doubtful whether any such salt can be prepared. The commercial preparations are either pure caffeine or variable mixtures of it with citric acid.

The manufacturers in this city furnish each a different article, except in cases in which they buy from a common source; and a house in a neighboring city furnishes an article which contains no citric acid. Some of the samples are purely bitter in taste, while others are distinctly sour. Analyses of some of the commercial salts are recorded in a paper read before the last meeting of the American Pharmaceutical Association by Dr. G. C. Wheeler. He found the quantities of caffeine varied from 96.5 per cent. to 63.5 per cent.; of citric acid from 63.5 per cent. to 3.5 per cent.; none of these figures correspond with the proportion of a true citrate.

It seems to me that accurate clinical observation can not be made with a preparation of so uncertain a character; for, as seen by these figures, the proportion of active ingredient may vary 33 per cent., and the lesson that these analyses teach us is that when the effects of caffeine are wanted they are best obtained by the use of the pure alkaloid, and not by a pretended and uncertain compound of it.

HISTORY OF A CASE OF PERIHEPATIC ABSCESS.—DR. EDWARD T. BEVEN read the following:

The accompanying specimen exhibits an abscess which has occurred between the diaphragm and the liver. The abscess contained nearly a pint of laudable pus. The superior wall of the abscess was the diaphragm, and the inferior the perihepatic capsule; the hepatic substance was not involved; indeed, the liver was normal. There were evidences of catarrhal inflammation in the colon, and one or two nearly cicatrized ulcers. The only other lesion in the body was found in the right pleural cavity, the lower portion of which was obliterated by inflammatory adhesions.

The clinical diagnosis presented some interesting features.

The patient, a young man, aged twenty-eight, was admitted to the Philadelphia Hospital, November 30, 1883. His previous history indicated that he had suffered from an attack of dysenteric diarrhea four weeks before his admission, although he had convalesced from this attack. He was evidently much emaciated. The temperature until December 8th ranged from 100° to 102°; from December 14th, from 99° to 101°, after which it never rose above 99½° in the evening, and was always 98° in the morning; this continued until the fatal termination of the case on the 20th instant. The pulse was usually above 100. There was occasional sweating; no chills. Extreme tenderness was felt over the hepatic region, associated with pain during the first ten days; the hepatic dullness extending four inches in the nipple line, and about five inches in the axillary region. Physical examination of the chest upon the right side revealed the evidences of a dry pleurisy; there was some cough, which was dry and hard, but not very annoying. Appetite and digestion were fairly good. Urine normal.

The diagnosis of hepatic abscess was made during the first week, chiefly because the symptoms of hepatic lesion, already detailed, were antedated by dysenteric diarrhoea. The pleural lesion was regarded as a secondary inflammatory process engendered by hepatic disease. On December 10th all symptoms of pain and tenderness had vanished; the patient's strength, appetite, and general condition markedly improved; the temperature had fallen to 99°, so that the diagnosis was revised to that of perihepatitis. From December 10th the improvement continued until the 20th, when, after an attack of vomiting, the patient suddenly died.

The autopsy appeared to prove that the inflammation which resulted in the formation of the abscess was primary in the pleura; and the secondary irritation developed the local peritoneal process.

The symptoms of abscess in the hepatic substance are frequently latent. I recall one instance of a patient admitted October 9, 1877, who walked to the hospital and remained under treatment until the 15th, suffering from apparent remittent fever. The day of his death he rose, in the absence of the nurse, and walked down stairs to smoke a pipe; that afternoon he had a hæmorrhage from the bowels and died. The temperature of this patient was between 99° and 101°, and the clinical diagnosis was remittent fever, or typhoid of the variety called ambulatorius. The autopsy revealed an abscess of about the size of a fetal head, occupying the convexity of the right lobe of the liver.

In the case I have reported this evening, the subsidence of pain and tenderness and the temporary improvement of the patient certainly misled me. Under similar circumstances, I should certainly introduce an aspirator, as I was inclined to do in the beginning of this case, because I am satisfied that the healthy liver can be punctured by a fine needle without damage, whereas either a hepatic or perihepatic abscess may at any time prove fatal by rupture.

Finally, if my explanation of the ætiology of this abscess is correct, the case is interesting, as showing the relation of pleurisy to serious perihepatitis.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M.D.,

LECTURER ON OPHTHALMOLOGY AND OTOTOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY; OPHTHALMIC SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN AND TO THE NURSERY AND CHILD'S HOSPITAL.

EPILEPSY PRODUCED BY A FOREIGN BODY IN THE EXTERNAL AUDITORY CANAL.—Küpper ("Arch. f. Ohrenheilk.," xx, 3) reports an interesting case of this kind in a young woman aged eighteen. Six weeks before Küpper saw her she had been attacked with severe pain in the right ear, which lasted for several days, and was relieved by a discharge of pus from the ear. Three weeks later, having severe toothache, she, by the advice of a friend, placed a small piece of some root in the inflamed ear, which she could not subsequently remove. Since then she has suffered frequently from epileptic attacks, sometimes having had several in a day. The convulsions are always violent and she is unconscious. The watch could only be heard when in contact with the ear, and the tuning-fork was heard better on the side of the inflamed ear. The region in front of the inflamed ear was very sensitive and the auditory canal was full of pus. When the canal was syringed, vomiting and vertigo were produced. The canal was found nearly filled with polypi. These were removed under anesthesia. The next day, after careful washing of the canal, a dark body was seen firmly imbedded in the canal. The patient was again anesthetized and the foreign body was removed with a hook, and proved to be a small piece of wood, 1 cm. long, 0.5 cm. thick. The patient had two epileptic attacks afterward, and since then there has been no return. The purulent otitis was subsequently cured.

CEREBRAL SYMPTOMS FROM OBSTRUCTION OF THE EXTERNAL AUDITORY CANAL.—In the same journal the same author reports a case of this nature occurring in an old woman aged

seventy-six. Violent headache and vertigo, vomiting spasms of the muscles of the face and extremities, came on without any known cause. The patient also complained of pain in the right ear, which was also very sensitive. The external auditory canal on the right side was completely plugged, the hearing was gone, and the bone-conduction was also nil on the right side. An attempt to remove the plug by syringing produced vertigo, vomiting, and violent convulsions. These attacks were repeated during the night. The next day another attempt was made to remove the plug by syringing, but only small bits came away. This, however, relieved the symptoms considerably, and the convulsions ceased entirely. On the next day the plug was removed entirely, and an examination showed that the membrana tympani was pressed closely against the internal tympanic wall, was cloudy, thickened, and immovable, and adherent throughout to the inner tympanic wall. Inflation produced no change in the appearance, and the hearing power was entirely absent. Eight months later the patient was again examined, but no change had occurred.

AN OBSCURE CASE OF SUPPURATION OF THE MASTOID PROCESS; TREPHINING.—F. Tilden Brown ("Zeitschrift für Ohrenheilkunde," xiii, 1) reports an interesting case of this nature in a man, aged forty-eight, which had begun as a purulent otitis media. The case was somewhat obscure from the beginning, owing to the entire absence of tenderness, heat, and swelling over the mastoid process, and to the long-continued pain in the region of the occipital protuberance. Even after the operation had been done, both diagnosis and prognosis were further complicated by the difficulty of distinguishing the symptoms of an attack of facial erysipelas which supervened from those of a meningitis.

OTTIO REFLEX PARALYSIS OF THE TROCHLEAR MUSCLE.—Moos ("Arch. of Otolaryngology," xii, 3, 4) reports a case of this kind in a man aged fifty. The mastoid process was involved, and there was probably some grave intracranial complication. There was no ophthalmoscopic evidence of any cerebral disorder, and no ocular lesion save the paralysis of the superior oblique muscle. Basilar meningitis or propagation of the inflammation to the cavernous sinus would afford a ready explanation of the disturbances in the function of the first branch of the fifth pair and of paralysis of the fourth. The temperature curve was also in accordance with phlebitis and thrombosis without disintegration of the thrombus. If we reject the theory of the presence of a phlebitis and thrombosis of a larger cerebral sinus, on account of the normal fundus of the eyes, nothing remains but to suppose that the retention of pus in the middle ear produced an irritation of the labyrinth, which did not extend to the cerebellum, but rather to the center of innervation of the trochlear nerve of the affected side. This irritation caused a reflex paralysis in the corresponding muscle, which gradually disappeared as its cause subsided.

THE ETIOLOGY AND SYMPTOMATOLOGY OF AUTOPHONY.—Brunner's article (*Ibid.*) is based upon an examination of five cases. He concludes that, apart from the cases in which autophony was produced by cicatricial contraction in the pharynx, it seems chiefly to accompany acute and chronic naso-pharyngeal and tympanic catarrhs. Its cause he considers to have been a patulousness of the tube, in consequence of the insufficiency of the valve-like closure of the pharyngeal orifice, or an alteration of equilibrium in the parts, with a tendency to rupture of the closure; possibly also a spasm of the dilator muscles. The sonorous, trumpet-like sound of the voice is the result of a change in the conditions of resonance. The ear is accustomed to receive sound-waves which impinge upon the drum-head and chain of bones from without, and for this kind of transmission resonance is evidently as much as possible eliminated. The

conditions are entirely different if the sound-waves enter the drum through the tube, in which case the column of air in the middle ear and the walls inclosing it are easily excited into co-vibrations.

A SUBJECTIVE AUDITORY SENSATION PRODUCED BY EYE-GLASSES.—Moos (*Ibid.*) reports the case of a woman, aged sixty-one, who noticed a peculiar ringing in her left ear whenever she put on a pair of eye-glasses, and this was accompanied by a loud beating noise if she persisted in wearing the glasses. Moos considered that the high ringing tone was not the subjective perception of the muscle-noise of the stapedius, but a subjective sensation of hearing caused by the negative-pressure fluctuation of the labyrinthine fluid, occurring when the contraction of the ocular muscles during the application of the eye-glasses excited the stapedius muscles to concomitant activity.

THE PHYSIOLOGICAL SIGNIFICANCE OF THE TRIGEMINUS AND SYMPATHETIC NERVES FOR THE EAR.—Berthold, in a second paper on this subject (*Ibid.*), criticises the views of Baratonx and Kirehner, and maintains his former views as to the physiological importance of the sympathetic nerve; that it is a vaso-motor nerve, and, so far as his experiments extend, a vaso-constrictor nerve for the entire ear (external, middle, and inner ear), as the blood-vessels always contract when the nerve is irritated. The results of division of the nerve, in regard to the blood-vessels of the middle ear, are negative.

THE INFLUENCE WHICH THE TREATMENT OF ONE EAR EXERTS UPON THE OTHER.—Eitelberg (*Ibid.*) formulates the results of his investigations: 1. The treatment of the one ear causes a distinct improvement in the hearing of the other, in a large proportion of cases; it rarely causes diminution of hearing. 2. The greatest improvement in the hearing on the non-treated side was noticed in cases of unilateral, acute or chronic, suppurative inflammation of the tympanum. It was discovered also that the hearing power on the side that was not treated, presuming, of course, that the disease had not already invaded that ear, could be restored to the normal amount before the morbid process upon the affected side had run its course. 3. When both ears are affected, the treatment of either one exclusively often produces an improvement in the other, not merely so far as concerns the hearing, but as concerns any subjective noises that may have been present. 4. In most of the cases under observation, the ear that had not been treated did not generally return at once to a normal condition, but only after a moderate lapse of time. 5. In other cases, the hearing, which had at first been restored in the one ear by treatment of the other, gradually decreased.

DIPHTHERIA OF THE AUDITORY APPARATUS.—Moos and Steinbrügge (*Ibid.*) describe six temporal bones, taken from three children who had died of diphtheria. All the specimens were taken from children, either under or just over one year of age, who had died from diphtheria of the pharynx or of the upper air-passages. In two of the preparations the cartilaginous auditory canal was wanting. In the remaining petrous bones the epidermis of the canal was either detached or could be readily peeled off, but in only one case was pus present. Perforation of the drum-head was seen but once. In six cases nothing could be seen of the hammer, excepting the short process in one case. The microscopic examination revealed in all cases intense injection, great fullness of the vessels, and extravasations of blood in the vicinity of the vessels, while infiltration with pus-cells was seen in only one half the cases. The membrana propria was intact in all the cases except the first, in which granulation-cells were found in a narrow cleft between the radial and circular layers. The mucous membrane of the tympanic membrane showed in all the cases great fullness of the vessels and many extravasations of blood; furthermore, in-

filtration of small cells in some of the cases and of pus-cells in most of them. The tympanic cavity contained either mucus and pus, or tenacious mucus alone, or mucus, pus, and blood, or granular cells, or small fibrous masses. In all the cases the lining membrane of the promontory was increased in thickness, the blood-vessels were enormously full, and the extravasations of blood were here recognizable by the naked eye. In one half the cases there was simple infiltration of the mucous membrane, with round cells, in the other half round cells and pus-cells were found together. The mucous membrane lining the antrum was changed in the same manner. The labyrinth was found to be normal in every respect, the only change being a coagulation of the lymph. The reporters were not able to decide whether the changes in the middle ear occurred simultaneously with and independently of the diphtheritic affection of the naso-pharyngeal cavity, or whether the disease extended by continuity through the Eustachian tubes to the ear. They think, however, that the disease of the middle ear either followed one of the milder forms of diphtheria or corresponded to the initial stage of this disease, since the membranous deposits could be readily removed, were easily broken up, and did not present the appearance of true diphtheritic membranes. They call special attention to the absence of micro-organisms in all the diseased parts.

THE HYPHOMYCETES (*ASPERGILLUS FLAVUS*, *NIGER* AND *FUMIGATUS*, AND *EUROTIUM REPENS*), AND THEIR RELATIONS TO OTOMYCOSIS *ASPERGILLINA*.—Siebenmann (*Ibid.*) has a long and interesting paper on the aspergillus fungus in the ear, based mainly upon his own observations. He agrees with Wreden in regarding these aspergilli as genuine parasites that penetrate the skin. He thinks that there are four things necessary for the origin and growth of the various forms of aspergillus vegetation: 1. Conidia or spores; 2. A peculiar condition of the *terrain*; 3. A temperature from 20° to 40° C. (68° to 104° F.); 4. A moderately abundant supply of air. In every normal ear there is a temperature of 20° to 40° C., with free access of air, but such an ear is unfavorable as a nidus for fungi, in so far as pure unaltered epidermis is a poor soil for aspergillus; while only when moist, and even then but scantily, does it afford nourishment for the growth of the fumigatus variety alone. It can, therefore, be affirmed with certainty that the latter variety of aspergillus alone can flourish in a normal auditory meatus, and even this only under the rare and abnormal circumstances that the entire district continues moist day after day. It may be said that, almost without an exception, a free layer of serum affords the aspergillus the original, the most favorable, and perhaps, after all, the only possible soil upon which it can flourish. The primary cause is an inflammation of the skin or middle coat, but it must not be one which secretes a serum capable of undergoing rapid decomposition. Everything that has a tendency to transform a suppurative into a serous otorrhœa, or to diminish the amount of the secretion, or to prevent decomposition, favors the growth of fungus. The favorite situation of the fungus pellicle is the tympanic membrane and the inner third of the meatus; more rarely the tympanum, and still more rarely the outer two thirds of the meatus. Aspergillus in the ear rarely clings as a membrane to the epidermis; usually it rests upon the surface of the exposed rete or corium, without penetrating the latter. On the contrary, mycelium of the deeper layers of the thallus may become surrounded by the cells of the rete Malpighii. Subjective symptoms are occasionally absent; generally there are deafness, tinnitus, pain, itching, and a discharge. Deafness and tinnitus are particularly well marked when the fungus grows upon the soil which has been furnished by the secretion from a myringitis. Itching is very rarely absent. The affection is accompanied by a slight aqueous, serous discharge.

Otomycosis has no specially characteristic subjective symptoms. The one significant symptom in a large number of cases is the occasional removal, by scratching, of a fungus membrane from the ear. Among the objective symptoms are a slight reddening of the locality which the fungus is about to attack, injection of the vessels of the manubrium, with absence of the light spot, and a serous secretion generally within twenty-four hours. The scattered, darker, punctiform spots which are usually observed upon the lower side of the membrane are the remnants of old, cast-off membranes. These fungi rarely possess any odor, though occasionally they smell like mold. *Eurotium repens* gives rise to no subjective symptoms. Objectively, it appears as an envelope or covering to ceruminous plugs, either as a fine woolly or greenish deposit, or as a fine sulphur-yellow layer, in which it is mingled with broken-down, discolored, gray or brown conidiophores. *Aspergillus flavus* and *niger* can generally be recognized by the naked eye, while the examination of *Aspergillus fumigatus* and *Eurotium repens* needs the assistance of a microscope. Fresh cerumen is hostile to the growth of aspergillus. Syringing with lukewarm water has frequently cured cases, but alkalies have rarely proved of any use. The sulphates, silver nitrate, strong solutions of carbolic acid, and instillations of oil are contraindicated, because they may excite an eczema. Glycerin and solutions of zinc, alum, or tannin favor the growth of the fungus. Fresh chlorine-, bromine-, or iodine-water, and strong solutions of permanganate of potassium, are extremely efficacious. A four-per-cent. alcoholic solution of salicylic acid is a sovereign remedy against otomycosis. The favorable action of alcohol depends upon the circumstances: 1. That the spirit is very easily diffused as well through dry as through moist membranes, and that it also comes into most intimate contact with the sporangia. 2. That it dissolves the resinous portions of the fungus elements, deprives the latter of their protecting envelope, imbibes the water, and renders the protoplasm incapable of life. 3. That the very qualities which have made alcohol so useful an adjuvant in the treatment of chronic inflammation of the external and middle ear render it invaluable in the treatment of otomycosis. It kills the fungi and diminishes the amount of secretion. The permanent destruction of the *Eurotium repens* can be accomplished by simply removing the old cerumen upon which it vegetates. The prophylaxis against otomycosis may thus be summed up: 1. Do not allow the walls of the meatus to be deprived of their cover of cerumen. 2. Prevent any loss of epidermis. 3. Avoid all unnecessary applications of fats to the ear, as well as aqueous instillations or injections. 4. Be very careful in the use of zinc, sulphate, glycerin, and tannin. 5. Treat all secretory processes of the external and middle ear in the dryest possible manner. 6. Endeavor to prevent all mechanical injuries in cases of eczema. 7. Be careful to cleanse all instruments which have been used for the removal or examination of any fungus membranes from the ear.

THE WATER-JET INFLATION APPARATUS, AND ITS VALUE AS AN AIR-DOUCHE.—Lucæ ("Arch. f. Ohrenheilk.") makes a strong appeal for the water-jet inflation apparatus as a means of giving an air-douche to the Eustachian tubes and tympanic cavities. The apparatus consists of three cylinders, which are connected with each other by two systems of tubes. The uppermost cylinder is connected with the conduit or water-system by a pipe, armed with a stop-cock. The cylinder beneath the first one is in direct communication with the atmosphere and contains two Giffard's injectors, which, as soon as the water begins to run from the first cylinder into the second, suck in air through the opening in the second cylinder. The air and water are thus carried along together and enter the third cylinder, which stands vertically beneath the other two and is much larger than either of them. From the lower end of this third cylinder runs

a leaden tube shaped like the letter U, with one leg much longer than the other, provided with a lateral tube for the escape of the water, and with a regulating stop-cock, which should always be kept open. Between the second and third cylinders is a bent tube, provided with a stop-cock for the exit of the compressed air. Into this tube a mercurial manometer is introduced, and it is then connected with the Eustachian catheter by means of a piece of thick rubber tubing. When the instrument is in operation, the powerful, continuous current of air passes into the middle ear, in a large number of cases, without any assistance on the part of the patient. It can also be used most satisfactorily without the catheter, by connecting the soft-rubber tube with an olive-shaped mouth-piece.

GRAVE DISEASE OF THE MASTOID PROCESS.—Knapp ("Zeitschrift für Ohrenheilkunde," xiii, 1) reports in detail three cases of severe disease of the mastoid process. The first case was that of a man, aged thirty-nine, with acute purulent otitis in consequence of sea-bathing. The occipital bone became perforated, and the cavity of the skull was drained for three consecutive months, but death followed in consequence of abscess of the brain. The second case occurred in a woman, aged forty-five, who had a chronic internal mastoiditis following purulent otitis media. The bone became sclerosed and was trephined. No pus was found, and death followed from meningitis or abscess. The third case was in a man, aged twenty-five, with acute purulent tympano-mastoiditis, accompanied by violent headache. There was neuritis optica. The mastoid was trephined, and the patient recovered with restoration of normal hearing.

Miscellany.

THERAPEUTICAL NOTES.—*Hanamelis Virginica*.—The therapeutical applications of this drug have lately been the subject of discussion in Paris, in the course of which, we are surprised to observe, one of the speakers seems to have been under the impression that the proprietary preparation known as "Pond's extract" was official in the pharmacopœias of Great Britain and the United States. As a contribution to the discussion, Dr. Tison writes to the editor of the "Bulletin générale de thérapeutique" a brief account of his experience with the remedy. His attention having been drawn to its utility in the treatment of varicocities by Dr. Musser's accounts, he has imported the bark and the leaves, and has had an alcoholic extract made from the former, and a tincture from the latter. For internal administration, he uses the extract divided into pills of about three quarters of a grain each; two pills are to be given twice a day, before meals. In the treatment of hemorrhoids, a suppository containing about a grain and a half of the extract is to be used twice a day. The tincture is employed as a local application, but, on account of the irritant action of the alcohol, it is well to combine it with half its bulk of water or glycerin. The author also uses an ointment made with four parts of the extract to thirty parts of vaseline or lard. In cases of varicose veins, he has observed rapid improvement from the combined internal and external use of the remedy.

The Use of Resorcin in Laryngeal Affections.—Dr. Justus Andree ("Centralbl. f. d. med. Wissensch.," No. 8; "Centralbl. f. d. ges. Therapie," April, 1884) remarks that resorcin, employed about the larynx or elsewhere in the body, effectually disinfects the instruments and apparatus made use of, without causing oxidation. Its caustic and astringent action on the tissues is accompanied by a temporary anæsthetic effect superior to that of any other monatomic, diatomic, or triatomic phenol, so that it may be applied to parts that are exceedingly sensitive. Cauterization with resorcin is followed by perfect regeneration of the epithelium, leaving no scar. Its use is particularly applicable in all hypoplastic and desquamative affections of the laryngeal epi-

thelium, and in chronic aphonia. It is a good caustic in the treatment of putrid affections of the throat, especially of the epiglottis and the vocal cords, as well as in a number of varieties of laryngitis. In tubercular ulceration of the larynx, it has a decided calmative effect upon the pain and the cough.

Solidified Creasote for Toothache.—The "Progrès médical" quotes an article from the "Praticien" to the effect that the employment of creasote as an application to painful cavities of the teeth is complicated with the inconvenience that the liquid is apt to give rise to trouble by coming in contact with various parts of the mouth. This may be avoided by mixing it with collodion, in the proportion of ten parts of collodion to fifteen parts of creasote. The mixture forms a sort of jelly, which, besides being more manageable than plain creasote, forms a varnish which seals the cavity and protects the dental nerve-substance from contact with the air.

Codaine and Glycerin Jelly.—In the "British Medical Journal," Dr. G. S. Mahomed calls attention to a preparation that he has had made, being a jelly containing codaine, citric acid, balsam of tolu, and glycerin. He employs it as a palliative in chronic laryngitis, phthisical cough, etc., the idea being that codaine is the least objectionable sedative, while the hygroscopic and mechanical properties of glycerin are of service. He remarks of such preparations that "patients take them more readily than ordinary medicines, and, if unrelieved, are less prone to be discouraged."

Compound Cathartic Elixir.—The "New York and Brooklyn Formulary of Unofficial Preparations," a very useful little volume recently prepared by a joint committee of the College of Pharmacy of the City of New York, the New York German Apothecaries' Society, and the Kings County Pharmaceutical Society, gives the following formula for the preparation of the *elixir catharticum compositum*:

Resin of podophyllum	8 grains.
Resin of leptandra ("leptandrin")	16 "
Alcohol	3 fluidounces.
Fluid extract of senna	2 fluidounces.
Tartrate of potassium and sodium	2 av. ounces.
Bicarbonate of sodium	120 grains.
Syrup	2 fluidounces.
Compound elixir of taraxacum *,	4 "
Elixir of glycyrrhiza, † enough to make	16 "

Dissolve the resins in the alcohol, and add the solution to the other liquids previously mixed, and in which the tartrate of potassium and sodium and the bicarbonate of sodium have been dissolved. The product should not be filtered, and should be shaken up before any portion of it is dispensed. The average dose is two fluidrachms.

* *Elixir taraxaci compositum*, the formula of which is as follows:

Taraxacum	480 grains.
Wild cherry	480 "
Sweet orange peel	480 "
Glycyrrhiza, Russian, peeled	960 "
Cinnamon	120 "
Cardamom	120 "
Canada snake root	120 "
Caraway	120 "
Cloves	120 "
Pure extract of glycyrrhiza	60 "
Alcohol, water	each, a sufficient quantity.
Syrup	32 fluidounces.

Grind the solid substances to a moderately coarse (No. 40) powder, and percolate, in the usual manner, with a mixture of one volume of alcohol and two volumes of water until sixteen fluidounces of percolate are obtained. In this dissolve the extract, and, lastly, add the syrup. If a precipitate should make its appearance in the elixir, on standing, it should be incorporated with the liquid by shaking, before use.

† The following is the formula of the elixir of glycyrrhiza:

Fluid extract of glycyrrhiza	2 fluidounces.
Water of ammonia	16 minims.
Simple elixir, enough to make 16 [fluidounces? (There is a blank in the book.)]	
Mix, and filter if necessary.	

Original Communications.

THE DISABILITY IN DOUBLE, OR SIMULTANEOUS, FRACTURES OF THE PATELLÆ.*

By JARVIS S. WIGHT, M.D., BROOKLYN,

PROFESSOR OF OPERATIVE AND CLINICAL SURGERY AT THE LONG ISLAND COLLEGE HOSPITAL.

WHEN the surgeon meets with an important case that is rare, and the like of which he has not seen before, he naturally turns to the books on surgery for more light, and, if he does not find what he seeks, he feels some disappointment, and has a laudable ambition to make good the deficiency. Now, when the case I am going to describe came under my observation, I had no doubt as to the disability; but the question I asked myself was this, *Is the disability after double fracture of the patellæ generally the same as in this case?* I then found that there was not much literature on this subject. In the next place, I wrote to some of the leading surgeons in this country in regard to cases of double fracture of the patellæ, and the replies, with one exception, were: *I have not observed nor treated a case of double fracture of the patellæ.*

On the 22d of January, 1883, Dr. D. S. came to my office in order that I might examine him for the purpose of testifying as to the extent and results of his injuries in a suit he had instituted for damages against the city of New York. He was sent to me by his attorney.

Dr. S. at that time was about forty-four years of age. He had evidently been in good health. The doctor informed me that he fell on the pavement on account of a defect in the sidewalk, and fractured both patellæ at the same time. The accident occurred on the 29th of May, 1879. Mrs. S. was with her husband at the time of his injury, and corroborated his statements. The doctor was conveyed to his home in New York, where he was treated by the late Dr. Caro, who put the lower limbs of his patient on two posterior splints, confining them and holding the fragments of bone in apposition in the usual way. So far as I could learn from the doctor, his treatment was good.

Dr. S., accompanied by his wife, came into my office, walking with two crutches. His motions were deliberate and slow, and he appeared to exercise much care to prevent himself from falling. The doctor removed a splint from each knee. This splint was devised by Dr. Caro, and was so constructed as to allow only moderate flexion at the knee joint. The doctor then informed me that he was confined to his bed about five months, that he was then able to get up from time to time and sit in a chair, and that in about fourteen months he began to walk with crutches, having his knees supported by Dr. Caro's splints.

Twenty-six months subsequent to the first injury the doctor fell again, and severely sprained the right knee joint. And with the second injury he was confined to his bed about four weeks, when he got up and resumed his crutches and knee splints. The doctor thought he could walk in a little time as well as he could after the first and before the second injury.

In this case I made the following observations, namely:

1. The fragments of the right patella were separated about

one inch. The direction of the separation was from without inward and downward. The bond of union was fibrous, and was less prominent than the bony fragments. The upper edge of the lower fragment was somewhat tilted forward, and presented some projecting points of bone. The motions of the right knee joint were greatly impaired. 2. The fragments of the left patella were separated about three fourths of an inch. The direction of the separation was nearly transverse. The bond of union was fibrous, and was almost as prominent as the bony fragments. There were small bony projections on both fragments. The motions of the left knee joint were much impaired. The left leg could be flexed and extended about twenty degrees. 3. While the doctor was sitting down he was obliged to extend his lower limbs, not being able to flex his legs to a right angle with his thighs. In addition to this, both ankle joints were considerably impaired, contributing to the difficulty of locomotion. The doctor said that he could not walk when the splints were not on his knees, as he had often tried the experiment. His chief difficulty was in going up and down stairs; it was possible for him to walk on the level. Why he could not walk when the knee splints were off was not easy to explain. It might have been on account of the sense of insecurity, or from the fear of falling, consequent upon the derangement of the neuro-muscular apparatus of each knee joint at the same time.

From all that I could bring to bear on the premises out of which to draw a conclusion, I could only make an unfavorable statement in regard to the disability of this man's power of locomotion. He is destined to be a *cripple* during the rest of his life. His disability is very great. If we take this case as a basis for judging, we must conclude that the prognosis, in a case of double fracture of the patella, is very unfavorable in respect to the future use of the lower limbs.

In this place we may briefly consider a few points in regard to the mechanics of the knee joint, since some light may thereby be shed on the extraordinary disability following a double fracture of the patellæ. The lower surface of the patella presents about two square inches of surface to the femoral condyles; the extent of this surface, however, varies in different cases; I have seen it as much as two inches square. This surface, as the patella moves under the pull of the quadriceps extensor, makes an equal pressure on the femoral condyles at all points of contact, during flexion and extension of the leg in the act of locomotion. Now, in order to lift the weight of the body of an average-sized man, under ordinary conditions, with the quadriceps extensor and the femoral lever, the pressure of the patella on the femoral condyles will be anywhere from 500 to 1,500 pounds avoirdupois. But when the body, under certain other conditions, acquires considerable momentum, the pressure of the patella on the femoral condyles may be much greater than this estimate. On the basis of these facts we can readily see the importance of the patella in the act of locomotion, especially in going up and down stairs, for, if we suppose the patella to be very much smaller than it is, or that the tendon of the quadriceps extensor had no sesamoid bone, we would have

* Read before the Medical Society of the County of Kings, April 15, 1884.

undue pressure at one point, or in one line, on the femoral condyles, and the effect might be imagined when we remember that a cubic inch of cancellous bone will only sustain a pressure of about 600 pounds avoirdupois. In fact, there would be serious damage to the femoral condyles under the supposed conditions. As a corroborating fact, we may mention that the patella is sometimes turned upon its edge—a kind of dislocation—and, by the force of the quadriceps extensor, is so firmly driven into the cancellous tissue of the femoral condyles as to prevent surgical skill from detaching it and restoring it to its normal position. In the mean time it must be kept in mind that the patella projects within the knee joint about one fourth of an inch beyond the tendon in which it is an essential part, and that as the patella, with its ligament and tendon, moves in the act of locomotion around the condyloid curve of the femur, the greater stress, and sometimes the greater strain, is, from the mechanical conditions, put on the more anterior and superficial patellar structures; and that the patella, when in the powerful grasp of the quadriceps extensor, consequent on slipping and trying to prevent a fall, has its anterior fibers put under stress and strain mostly at first, and has these fibers broken first in order—when the fracture extends at once backward through the entire bone.

And, moreover, it can readily be demonstrated that the tendinous and fascial structures—as they are expanded in front of the lower end of the femur—converge, as it were, toward the patella from both sides of the limb, and are thus kept in an expanded form over the femoral condyles as the leg is flexed; and, during the flexion and extension of the leg, the tendo-patella and the adjacent fascial and capsular structures are continuously and accurately applied to the uneven surface of the anterior aspect of the condyloid end of the femur in the most admirable manner, so that, when the leg is much flexed on the thigh, and when more force is required to lift and lower the weight of the body, a very much greater surface of the femoral condyles receives the pressure, and hence the condyloid cancellous tissue in actual use is proportioned to the amount of work to be done, and is therefore conserved in its integrity during locomotion.

And, when the patella is fractured, the integrity of the tibio-femoral and the patello-femoral—or, collectively, the knee joint—is more or less seriously damaged in three directions: (1) The relations of the fibers converging to the patella may be materially deranged; (2) the angle of the ligamentum patellæ and the upper end of the tibia is made less; (3) the joint-surface of the patella is more or less deformed; that is, the functions of the neuro-muscular apparatus are more or less materially impaired. And so, if the sense of security possessed by a patient under ordinary conditions of locomotion may be greatly disturbed by a single fracture of the patella, it would be very greatly disturbed by a double fracture of the patellæ.

Now, while it might seem that such a case as above described ought not to result in so much disability, yet, when we come to consider all the mechanical relations of the knee joint, and when we come to consider the results of a few more cases soon to be noted, then we need not be surprised

in regard to the disability resulting from a double fracture of the patellæ. I have made some inquiry in regard to the disability following double fracture of the patellæ, and do not find much that is worthy of record. Dr. H. O. Marcy, of Boston, in answer to a letter of inquiry in regard to a case of double fracture of the patellæ coming under his care some years ago, writes as follows: "I have lost sight of the case referred to for some years. When last seen she could walk on the level fairly well, taking pains to keep the lower limbs nearly straight. Bending the knees gave the fear and, indeed, I believe, the sensation of falling. She had great difficulty in going up and down stairs." Dr. Marcy goes on to describe a case of single fracture of the patella which he treated some years ago, and in which he obtained a good result; that is, there was union by a *short ligament*. The doctor further informs me that about two years ago this patient, by muscular effort, broke this short ligament as well as the other patella at the same instant, making a case of double fracture of the patellæ. This statement is virtually correct, yet we might say that one patella was re-fractured and the other was fractured at the same instant. Further writes Dr. Marcy: "She"—for this patient was a female—"made a very imperfect recovery with long ligamentous union. Oddly enough, the re-fractured patella gave the best result, in marked contrast with the other patella. She can not cross from the road to the sidewalk without help, and walks by keeping the lower limbs stiff and swinging them much as in case of ankylized knee."

Desault informs us that a patient, being cut for stone, had a convulsion, and fractured both patellæ at the same time (Gross). Sir Astley Cooper also mentions the case of a man who fractured both patellæ simultaneously. And what is more to our present purpose, as we learn from the fourth volume of the "International Encyclopædia of Surgery," Callender gives the following points as to the results of a case of double fracture of the patellæ: "I note in the case of a man who had double fracture of the patellæ some years before, that he had lost all power of recovering himself when the body was bent back from the knees, and that he was constantly falling while moving about. The interval on both sides between the fragments was less than two inches and a half."

Now, from these four cases of double fracture of the patellæ—the one noted by Mr. Callender, the two treated by Dr. Marcy, and Dr. Caro's case, reported by myself—we may conclude that the disability after such an accident will be very great; in fact, a patient having had both patellæ fractured at the same time may reasonably expect to become a most deplorable and pitiable *cripple*. Finally, let me note that this subject throws additional light on the disability that may follow a case of single fracture of the patella. And if it may be said that double fractures of the patellæ are so rare that we shall not be likely to meet such a case, let me reply that such an accident may happen at any moment, and then the surgeon who is called to the case will not, we trust, be unthankful for our trying to find out the disability and its cause in double fracture of the patellæ.

TWO CASES OF DOUBLE AMPUTATION OF THE ANTE- RIOR PART OF THE FEET, AFTER ERICHSEN.*

BY JARVIS S. WIGHT, M.D., BROOKLYN,

PROFESSOR OF OPERATIVE AND CLINICAL SURGERY AT THE LONG ISLAND
COLLEGE HOSPITAL.

CASE I.—John Dalton, African, fifty-two years of age, a seaman, was admitted to the Long Island College Hospital, January 15, 1883, having had both feet severely frozen just before his coming to the hospital. This patient said his general health had been good; he appeared to be over sixty years of age. Both feet were swollen, red, and painful; they were dressed with carbolic oil and oakum. The patient was unable to walk, sit up, or stand. He was put to bed in a well-ventilated ward, and given a nutritious diet, milk-punch, iron, and quinine.

For many days it was uncertain where the limit of mortification would be established. And it was not until about the 20th of February that the line of demarcation appeared; and soon after the furrow of separation between the dead and the living tissue became established. It is well to note that during this time the patient did not have any septic fever from the absorption of the local waste products. The furrows of separation, both on the dorsal and plantar surfaces, were somewhat posterior to the metatarsophalangeal joints.

On the 28th of February I performed the following operation on both feet in the presence of the medical class: An incision was made from the base of the fifth metatarsal bone downward to the vicinity of the furrow of separation, thence extended across the dorsum of the foot just behind the wall of limiting fibrin, and then continued upward along the inner side of the foot to the base of the first metatarsal bone. The dorsal flap was then dissected up to within about an inch of the tarsometatarsal joint, when all the metatarsal bones were cut through with a saw. The plantar flap was then made by cutting from within outward, and then the bases of the fifth and first metatarsal bones were disarticulated. The stumps were dressed and treated as open operation wounds, and the patient made a good recovery, having been discharged, able to walk, from the hospital July 15, 1883.

CASE II.—A. Duval, seaman, of African parentage, twenty-one years of age, was admitted to the Long Island College Hospital, January 22, 1884, having had his feet frozen the day previous. About the 10th of February the line of demarcation began to appear, and on the 15th of February the furrow of separation was well formed—just above the heads of the metatarsal bones. On that day I performed the same operation on both feet of this patient that I had performed on the feet of the first patient, with the following exception, namely: after disarticulating the base of the first metatarsal bone of the left foot, I sawed off about three eighths of an inch of the internal cuneiform bone, because it was longer than usual. This operation was substantially a double amputation, after Erichsen. The stumps were treated just as the others were, and have done very well; the patient is now (April 15th) up and about the ward, and will soon be discharged cured.

My experience with these two cases prompts me to make the following remarks, namely:

1. In performing the above-described operation, to make the dorsal flap, and then saw through the metatarsal bones

and finally make the plantar flap, appeared to facilitate the removal of the damaged parts. This method of sawing the bones and making the plantar flap by cutting from within outward is to be preferred to the usual method of making this flap by cutting from without inward.

2. In both cases it was possible, when the flaps had wholly united, to have the scar-tissue exactly in front of the stumps, and the dorsal and plantar surfaces covered with tegumentary tissues, so that the pressure of a boot during locomotion could be well sustained.

3. Leaving on the three metatarsal bases not only increased the plantar surface for pressure, but also made a better foot-lever than Lisfranc's operation, while removing the first and fifth metatarsal bases improved the appearance of the stumps, and did not in any way seem to impede the process of repair.

4. While a double operation of the kind under consideration will leave considerable disability, I am of the opinion that a single operation, leaving one foot entire and unimpaired, would leave a moderate degree of disability in locomotion.

5. In fine, it remains for me to mention the very great advantage arising from treating such stumps with open dressings, thus facilitating the removal of waste products, which are likely to penetrate and burrow under the fascia of the feet.

ANTISEPTIC SURGERY IN PRIVATE PRACTICE.*

BY FRANK W. ROCKWELL, M.D., BROOKLYN,

SURGEON TO ST. MARY'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN: While the principles governing the dressing of wounds in most of our large metropolitan hospitals are based more or less thoroughly on those which were formulated by Sir Joseph Lister, and while few surgeons of extensive hospital experience are willing to submit patients under their care to the risks involved by neglect of these principles, and therefore, even in their private cases, carry out the measures which experience and constant practice have rendered it easy for them to do, there exists a large class of practitioners in our midst, upon whom are constantly devolving the duties and responsibilities of surgical practice as they arise in private cases (such as the treatment of wounds, compound fractures, etc.), who, by their want of familiarity with antiseptic methods and materials, are placed at a disadvantage in the treatment of such cases, under the very circumstances in which improved methods of dressing wounds are likely to be of most benefit to both patient and physician.

For when to the superior advantages of ventilation, diet, and hygiene, as found in domiciliary practice, are added those of infrequent examination and dressing of wounds, the result can not but be to the interest of the patient—a fact with which we are all familiar.

It is for these reasons that I wish to present this paper in connection with that of my colleague, Dr. Fowler, because the results obtainable in hospital wards by the meth-

* Read before the Medical Society of the County of Kings, April 15, 1884.

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ods described by him are still more easily reached in private practice and by simpler means.

For the last few years all operations done by myself have been, as far as possible, thoroughly antiseptic, even when cumbrous spray apparatus, jute, oakum, gauze, carbolized catgut, and the numberless appliances of the Lister system were deemed necessary to success, and in the results obtained I have felt well repaid for the trouble expended.

Now, however, that the spray is no longer considered an essential, even by Lister himself, and especially since a larger experience with antiseptics has enabled me to rely with confidence on the results to be expected from the observance of a few simple rules, and the application of dressings which are almost as simple as bandaging itself, I find it perfectly easy to carry out in every essential detail the antiseptic method, even in private practice.

The few appliances and drugs used have been collected together in the small compass of an ordinary tin cash-box measuring ten by seven inches, and consist of the following articles, contained in the upper tray of the box and its divisions:

Four cylindrical boxes or bottles of rubber, each containing two surgical sponges, and filled with five-per-cent. solution of carbolic acid.

A card of silk of different sizes, made aseptic by boiling in a mixture of salicylic acid, bee's-wax, and carbolic acid.

A box of chromatinized catgut, prepared by immersing ordinary violin and banjo strings in chromic acid, 1 to 1,000, and then in sulphurous acid.

A bottle of iodoform, another of naphthalin, and one of styptic cotton.

Another containing carbolic acid, which is so graduated upon its sides as to serve as a measure of proportion in making the two-and-a-half and five-per-cent. solutions; and a similar one containing a solution of the mercuric bichloride in alcohol, M_{xxx} of which represent seven and a half grains of the salt, and are sufficient to make a pint of the ordinary solution. Drainage-tubes, half a dozen cork discs, painted of different colors, labeled carb. acid, 1 to 20, hydrarg. bichloride, 1 to 1,000, etc., and varnished—safety-pins, horse-hair for sutures, gauze bandages (antiseptic), dressing forceps, a nail-brush and a razor, and ten yards of Mead's rubber adhesive plaster on spool.

The lower portion of the box contains a large piece of naphthalinated gauze, measuring five yards in length by one in width, and sufficient for any ordinary dressing. A piece of rubber tissue twenty-four inches square, a Fowler's irrigator, a pair of large shears, and ordinary roller bandages.

A few words in regard to some of the articles named in the above list may be better said here than later in the paper. The *sponges* used should be carefully selected from firm and fine specimens of the article, and prepared in the following manner: While still dry they are well beaten and rubbed until the particles of sand are driven from their meshes; they are then washed in tepid or warm water, and allowed to soak until the water containing them is clean and free from sand; they are then dried again, beaten and washed, and allowed to soak for an hour or two in a solution of sulphurous acid and water (one part of the acid to fifteen of

water); after this they are again washed and kept in a solution of carbolic acid (five per cent.), or mercuric bichloride, until required. At the completion of the operation they are thoroughly rinsed in warm water, taken home, and, if the case has been at all suspicious, soaked a few hours in the sulphurous-acid solution, or a weak solution of chlorinated soda, washed, and returned to their bottles.

Otherwise they should be allowed to stand for a day in a weak solution of carbonate of sodium, to dissolve out any remaining blood-clot, fibrin, etc., and then preserved for use. My own plan is to destroy sponges used about old sinuses in bone, operations for cancer, or in connection with old-standing or suspicious cases of rectal or vaginal disease.

The silk used should be kept in waxed-paper or air-tight boxes until needed, and then placed in the mercuric solution until applied to the vessel or used as sutures. Practically, I have discarded all but the finest Chinese twist for ligatures, and employ only fine catgut for the purpose.

The chromatinized catgut is kept dry in a box, with a little powdered iodoform, and, when laid in the carbolic or mercuric solution just before the operation, is pliable enough for use after fifteen or twenty minutes.

The horse-hair makes an admirable suture as its smooth, non-absorbent surface makes it perfectly unirritating, and, where there is no special tension on the wound's lips, no better could be devised. If deep approximation be desired, a few deep sutures of the antiseptic silk, or silver wire, with firm and equable compression in the final dressing, give the best results.

The drainage-tubes used are the ordinary rubber ones of the shops, or those you will see in the tray, made of the long bones of the chicken or turkey. Those exhibited were made by myself after Deakin's plan, which consists in first boiling the bones well, and then steeping them in a mixture of one part of hydrochloric acid and two of water for ten hours, then washing, cleaning out, and trimming up with scissors, after which they are boiled in a five-per-cent. solution of carbolic acid, and kept for use in the bichloride solution.

So prepared, they will last in a wound for four or five days, and are usually never seen again, if the dressing be retained for a longer period, as they soften and are absorbed.

The gauze bandages are each five yards long, and are simply strips cut and rolled (with antiseptic hands) from a similar dressing to that which occupies the lower tray. After rolling, they are wrapped in waxed paper and kept for use in the tray.

The naphthalinated gauze comes in five-yard rolls, which are about three feet wide, is packed in air-tight tin boxes, and can be obtained, with everything else needed for practical antiseptics, from C. Am Ende, 268 Washington Street, Hoboken.

It is made after a formula originating with Dr. Fowler, and has, so far, answered the purposes to which I have applied it better than any other form of dressing I have used.

To illustrate the use of the materials enumerated, I will imagine their application to a case of ordinary severity; for instance, one of strangulated hernia.

An operation having been determined upon, the surgeon

procures from the family two pitchers, two shallow dishes, a basin, and a tumbler.

In one pitcher the mercuric solution is made by adding π xxx from the graduated phial to every two tumblerfuls of water poured in. A cork label is thrown into the solution, preventing any awkward confusion or blackening of instruments during the operation.

In the other pitcher a five-per-cent. solution of carbolic acid is made by adding from the proper phial three heaping teaspoonfuls to every two tumblerfuls of water. A label is also thrown into this pitcher, and from these two sources of supply the other preparations are rapidly made.

The instruments required are selected and laid in one of the dishes, in the other the sponges, and upon each a sufficient quantity of the five-per-cent. carbolic solution is poured; to this is then added an equal amount of water, thus reducing the solutions to the proper strength of two and a half per cent.

The surgeon's hands are now thoroughly washed, and rinsed in the five-per-cent. solution, and the nail-brush brought into requisition, his assistants, who are to pass sponges or instruments, taking the same precautions. The parts in the vicinity of the proposed wound are now washed and the hair shaved off, after which a thorough application of one of the solutions is made; the surgeon rinses his hands again in the five-per-cent. solution, and proceeds with the operation. This is done without spray, and even the rule in regard to always returning instruments to the solution when not in use may be *partially* neglected, the surgeon laying instruments constantly required on a napkin or a towel wrung out of the five-per-cent. solution and laid conveniently to his hand. This must, however, be *kept* damp, and used as little as possible, since the *habit* of laying instruments down anywhere but in an antiseptic fluid is a bad one and fraught with evil results. The operation concluded, all oozing is carefully checked, and the hands of the surgeon rapidly cleansed in the five-per-cent. solution. The irrigator is now used by filling its tube from the funnel-end and immersing it in the mercuric solution; an assistant holds the pitcher near the operator, and the wound is carefully and thoroughly cleansed. If, on stopping the irrigation, all hæmorrhage is found to have ceased, its lips are brought together with horse-hair sutures, and, *if possible*, without the use of drainage-tubes. (These are, I believe, by no means an unmixed good, and, unless the wound be a deep one, or, from its situation or cause, likely to be attended with profuse serous discharge, I prefer not to use them; in the majority of cases I do not, and have seen the largest wounds heal under one dressing without them. If I fear to close the wound entirely, and have reason to believe that a few days' drainage may be beneficial, I use the de-calcified bone, but trust, in the majority of instances, to equable pressure and thoroughness in cleansing the wound before closing it.) The sutures having been tied, the whole surface of the wound is now thoroughly covered with dry, finely powdered naphthalin, and, as rapidly as possible, covered with a thick pad of the naphthalinated gauze, which has been dipped in the five-per-cent. carbolic or the mercuric solution. A gauze bandage is now snugly applied, the

irregularities and depressions in the vicinity being padded with cotton, cotton-wool, jute, or any material the surgeon prefers. *These need not* be necessarily charged with any antiseptic material, since the protection to the wound is in the naphthalin and gauze, and the cotton acts simply mechanically as equalizing pressure, and *possibly* as a germ filter from without, its own harmlessness being insured by the barrier below. If I fear discharge from beneath, I am in the habit of scattering naphthalin or iodoform thickly upon the outer surface of the moist gauze, which is then covered with a few layers of dry gauze cut from the sheet, and kept in place with a common roller bandage. The patient is now disturbed as little as possible, the parts kept absolutely quiet, and, if I find by the second or third day that no discharge has made its way through the dressing, that no elevation of temperature (or but slight) exists, and that pain is absent, I wait for some indication as to the period of redressing. With most private cases, intelligently cared for, the dressings are very infrequent; often the first suffices, as I feel that after the first forty-eight hours the chance of failure diminishes. I must beg the pardon of the society for what may seem prolixity in the subject-matter of this paper; but when I say that with this dressing and method, or very slight modifications of it, I have had an ovariectomy heal under a single dressing, which was first removed on the eleventh day, have seen such wounds as are made in amputation at the knee joint, leg, thigh, and breast heal with scarcely a rise of temperature or expression of pain on the part of the patient, and this not in a few selected cases, but, as a rule, whose results I confidently expect in most cases submitted to the treatment, I am sure the repetition of detail is excusable.

Exceptions to the rule, of course, occur, but they have been very rare in my experience, and generally traceable to some cause which I could afterward recall.

That the *theory* upon which antiseptic surgery as practiced to-day is based is the true one, I am not at all prepared to say, since the success of many who follow the partial course I have advocated is no longer a matter of doubt. The *practice*, however, is a constant source of gratification to the surgeon and comfort to his patient, and, followed out in its essential details, can not but increase the efficiency of the man who uses it.

I had intended to supplement the paper with the sketches of a number of cases treated with the dressings recommended, but it has already reached too great a length. I may, however, mention the following two briefly, as they show what excellent results may be obtained where formidable traumatism is subjected to their influence:

CASE I.—Bronchocele, removed from a girl of eighteen. The tumor was so large as to interfere seriously with deglutition and respiration, and weighed exactly one pound after removal. During the operation a great number of vessels were tied either with fine silk or catgut, the superior and inferior thyroid arteries and the pedicle ligated with the same, and the sheath of the common carotid artery, internal jugular vein, œsophagus, and trachea exposed from the level of the hyoid bone to the clavicle, yet the patient recovered without a single untoward symptom, was sitting up in her bed reading on the third day, and complained of but slight pain at any time subsequently to that period, what

little she had being caused, I am certain, by the presence of the rubber drain I was compelled to use for the protection of the floor of the wound which immediately overlay the subclavian vessels and pleural cavity.

CASE II occurred just one week ago to-day, in the person of a lady of fifty, from whom I removed an ovarian cyst, which had contracted adhesions to the small intestine and omentum, and required for its removal an incision reaching from three inches above the umbilicus to the pubes, and rather more than the ordinary manipulation within the peritoneal cavity. Several silk and catgut ligatures were left, but, under the simple moist gauze and cotton dressing, the patient is making a painless and, so far, uneventful recovery. She is now beginning to take solid food; has, but with one exception, had an average temperature of 98-80°, only reaching 100° once, and has not yet had even a safety-pin moved in the dressing applied at the time of the operation.*

HOSPITAL ANTISEPTIC SURGERY.†

By GEORGE R. FOWLER, M. D., BROOKLYN,

SURGEON TO ST. MARY'S GENERAL HOSPITAL.

I AM conscious that this title is far too comprehensive, for my present efforts will be limited to a description of the methods most popular with us at St. Mary's General Hospital. I am far too busy a practitioner of our art to find time to visit the other hospitals of this or the adjoining cities; I therefore know scarcely anything of methods there practiced, except that here and there, through the medium of the journals, I catch a glimpse of what they are doing for the advancement of the cause.

In every ward of our hospital there are large stock bottles of a five-per-cent. solution of carbolic acid. Tin basins, towels, and soap are disposed conveniently about, and no orderly would think of bringing anything else but the solution of carbolic acid, diluted with water one half, for the surgeon to wash his hands as he enters and leaves the ward.

It is required of internes that they shall not have visited the mortuary department, nor have handled any gangrenous ulcer, etc., upon the day that they are to assist at an operation. Prior to taking part in the operation they are required to most thoroughly disinfect themselves with soap and a two-and-a-half-per-cent. solution of carbolic acid. After this their hands and arms are dipped in a solution of corrosive sublimate of the strength of one to one thousand.

Besides the ordinary preparation that patients undergo prior to operation, they are here thoroughly washed in carbolized water and soap for some distance beyond the point of operation; if, for instance, it is a foot to be operated upon, the entire leg takes part in the ablution. This is done in the ward, and towels, wrung out of the sublimate solution, are wrapped about the parts until the operation is about to begin. The patient being brought to the operat-

ing theatre, the rubber sheet covering the table is sponged off with the sublimate solution; the surrounding parts, as well as the site of operation, are again drenched with the same. Towels, wrung out of sublimate solution, are folded in convenient shapes and so disposed about the field of operation as to thoroughly isolate it from the rest of the surroundings.

Although corrosive sublimate is the favorite antiseptic with us, yet among the few objections to its use may be mentioned its blackening effect upon bright instruments. For this reason we still adhere to the use of a two-and-a-half-per-cent. solution of carbolic acid as a germicide bath for the instruments. These latter are conveniently arranged in square, shallow tin pans, in the bottom of which are placed folded towels; just before the operator is ready to proceed, the solution is poured upon them.

As we rarely use the spray in the hospital at the present time, the subject of irrigation becomes one of great importance, for we feel that some efficient method must be adopted to prevent the permanent lodgment in the tissues of floating matter from the atmosphere. We know of no method, next to the spray, of accomplishing this object with a fair degree of certainty except by means of irrigation, and by some the latter is considered superior to the former. Frequent irrigation during the course of the operation is most desirable, and for this purpose the corrosive-sublimate solution would be by far the preferable antiseptic were it not for its damaging effects upon the Péan forceps and other instruments in use in and about the wound. For this reason it has never been popular in our operating theatre for irrigating purposes during operations. The two-and-a-half-per-cent. solution of carbolic acid here serves a good purpose; but at the close of the operation, after all instruments are out of the way, and just before placing the sutures, the wound in all its recesses and surroundings is most thoroughly doused with the corrosive-sublimate solution.

We look upon the arrest of hæmorrhage before closing the wound as a very important part of the antiseptic method, and no point of oozing is ever overlooked. It is at once grasped by a Péan or other flat-bladed and ring-handled spring-catch forceps, and, if these accumulate in the operating field so as to be in the way while the operator still continues at work, an assistant is directed to throw a ligature around each one, and whatever it may happen to grasp, without stopping to isolate the vessel. As catgut ligatures alone are used, it is believed that it makes but little difference about the tissues inclosed in the ligature, so long as the hæmorrhage is controlled. Of course, no one would think of including a large nerve trunk. Further, it is thought to be senseless folly to keep removing forceps to see if the oozing has been controlled by pressure, then having to reapply them or resort to torsion, and finally be compelled to tie the vessel. All this involves an extravagant waste of time and much awkward manoeuvring. As only absorbable ligatures are used, and these of an unirritating character, it is not deemed objectionable to have a large number of them in the wound.

It may be of interest to know the method we employ in the preparation of our catgut ligatures. We procure from

* In this case the dressing was not changed until the *eleventh day*, when the dressings were removed, and the wound was found to be perfectly united. The silver and horse-hair sutures were removed, and the dressings reapplied. They were not again disturbed until a week after, when they were entirely removed, and a simple bandage was substituted. The patient has now entirely recovered.—May 2d.

† Read before the Medical Society of the County of Kings, April 15, 1884.

Peck & Snyder, importers, 126 Nassau Street, New York, the best Italian guitar "E" and violin "E" strings, these two sizes being found sufficient for all practical purposes. In their preparation the latest method of Lister is adopted, as follows: The catgut is first immersed for twelve hours in a one-tenth-of-one-per-cent. solution of chromic acid, then dried, and immersed for twelve hours longer in a solution of sulphurous acid of the strength of the British Pharmacopœia. They are then dried and laid away for use. We keep some powdered iodoform in the box with the ligatures. It should be remembered that the strings are almost sure to untwist, unless prevented from doing so, and become thereby useless, when soaked in these solutions for so long a time. In order to prevent this we have adopted the following expedient: The skeins are slipped, just as they come from the importers, upon a round glass bottle upon which they snugly fit; this is filled with sand, so that it readily sinks into the solutions, and here they are kept during the whole process of preparation, and, when finally dried, are removed, and will be found to have retained their original size and shape, the latter a very convenient one. When they are to be used, we cut, say, half a dozen ligatures of about eight inches in length, and place them in a two-and-a-half-per-cent. solution of carbolic acid, or, better still, in the one-to-one-thousand solution of corrosive sublimate. This is done just at the beginning of the operation, and, when needed, they are found soft, pliable, strong, and perfectly antiseptic. They may be relied upon to hold, in a non-suppurring wound, either as ligatures or sutures, for at least ten days.

Next in importance to the securing of every bleeding point, and thereby securing a dry wound before closing it, is the consideration of some simple and efficacious mode of draining away the wound secretions as they occur. As in most hospitals, rubber tubing of different sizes, having perforations in its walls, is the stock material for this purpose. It is cheap, and, upon the whole, quite efficient, although occasionally, it is to be regretted, a sinus is left marking the track of the drainage-tube long after the rest has fully healed. In amputations of the breast we prefer Neuber's absorbable bone drains, and have had some remarkably rapid healing under one dressing with their use. In cases of extirpation of large tumors, where quite a cavity remains, and perhaps several pockets, I have devised and practiced a method called "branched drains." It consists essentially in taking a single stitch, with a needle threaded with catgut-ligature material prepared as before described, in the deeper portion of the wound, and bringing out both ends from the most dependent angle of the wound. This is repeated in different parts of the wound and its flaps, all the strands being thus brought to the lower angle of the wound from different parts of its cavity and lower surface of its flaps. Other strands of the same material are laid along the middle of the wound directly underneath the line of sutures in the ordinary way, if deemed needful. Thus it will be seen that these branching drains, coming, as it were, from every part of the wound-surfaces and leading to the most dependent portion, must drain more efficiently than a single tube or bundle of capillary drains simply laid along the middle line of a large wound-cavity. Being likewise absorbable,

their presence need give the surgeon no uneasiness, and the dressings can remain, but for some reason other than the removal of the drains, until the wound is entirely healed, thus realizing the surgeon's *beau idéal*—viz., perfect healing under one dressing. Attempts other than by this method and that of the absorbable-bone drains to accomplish this latter object have not been made by myself, with one exception. This was a patient in whom, after an amputation of the thigh just below the trochanter, I tried the method of drainage known as "canalization," introduced by Neuber likewise. This consists of punching numerous holes, from a quarter to half an inch in diameter, through the flaps at various points, and relying upon these for drainage from the wound. The case was one of disease of the femur of long standing, the man was in incipient phthisis, and his vitality was far from being good. Yet, in spite of this, the punch-holes were found blocked with partly organized lymph, the cavity of the wound was filled with sero-sanguinolent fluid, and its interior gangrenous from pressure, when upon the third day the dressings were removed on account of a sudden rise of temperature. This is the only case that I have lost, after operation, from pyæmia since I began, understandingly and intelligently, the practice of antiseptic surgery.

As sutures, carbolized silk, horse-hair, silver wire, and catgut hold about equal rank in the estimation of our surgeons, my own practice more recently has been to close operation wounds, which, of course, are expected to pursue an aseptic course, at once with the continued catgut suture. By this means both time and material are conserved, and a much neater line of union obtained. Usually the outside loops of the sutures drop off and come away with the dressings when the inner loops are absorbed. In comparing the irritating qualities of the non-absorbable materials (horse-hair and carbolized silk), we have determined that horse-hair sutures, well cleaned and kept in sublimate solution ready for use, remain rather longer in the tissues without producing irritation, as evinced by slight suppuration along their track, than those of carbolized silk.

When we reach the matter of dressings, we open up the most important part of the subject of hospital antiseptic surgery, for it is the expense attendant upon the use of antiseptic dressings that has been urged by boards of trustees of hospitals, and prevented many surgeons from adopting them in their wards. Now, I would venture to say that even the expense of a Lister dressing, in all its completeness, when intelligently used, with its need for but infrequent change, will compare favorably with the cost of a daily, and perhaps twice daily, application of ointment, lint, plaster, and bandages. The question that meets us at this point is, What are the requisites of an efficient antiseptic dressing? First of all, the basis, or that which seems to hold our antiseptic and serve at the same time as a dressing, must be of a highly absorbent character, and it must be readily obtainable. Furthermore, it must be light and easily molded to the parts operated upon, non-irritating, and readily impregnated with some active antiseptic substance. For this purpose the material in most common use at the present time is absorbent cotton. This substance is, however, in my opinion, very much overrated as a surgical dress-

ing. I have used it extensively, and find that, although there may be a large mass of it surrounding the wound, yet but a very thin layer, and that only lying immediately upon the wound, became saturated with the secretions. A sort of crust is formed by the discharges combining with and drying in the meshes of the cotton, which becomes impermeable to the fluids, and any further secretions must either remain upon the parts under this crust of cotton, or find their way along the surface of the adjacent parts, and finally make their appearance under the edges of the dressings. When the latter are removed, the large mass of cotton-wool is found to be entirely dry, except the thin layer before mentioned. The district covered by the dressings are sodden, and covered by accumulated wound secretions. Such a condition of affairs is certainly not consistent with the proper carrying out of the principles of antiseptic surgery. In small wounds, and where but little discharge is expected, absorbent cotton, impregnated with an antiseptic, may be used; but the principal use to which we put antiseptic absorbent cotton, in connection with the dressing of wounds, is for the purpose of making firm and equable compression, and to fill in and back up the absorbent material proper of the dressing. The article known as Westhorp's antiseptic marine lint is a much better absorbent material than the cotton; its antiseptic properties, however, are but feeble, depending as they do upon a variable proportion of tarry compounds in its meshes. To increase its antiseptic virtues, we have been in the habit of incorporating in it, after picking and carding, naphthalin. The latter, when well powdered, will adhere to the fibers of oakum or marine lint through the medium of the tar in the latter. This makes a good substitute for the cotton, and, thus prepared, is reasonably antiseptic. It, however, is an expensive when large dressings are used, and another objection to its use lies in the fact that there is formed, by its application to the skin, a black scale of tarry, gum-like substance that adheres tenaciously, particularly in regions where the hair is growing; it also hides from the observer the color and other conditions of the wound district. Except, therefore, where but a feeble antiseptic effect is required, but one or two dressings are needed, and these to remain but a short time, the use of this material is not advised.

During the past winter I procured some of the material known as glass-wool, first introduced as an inorganic dressing material by Kummel in connection with his mercuric bichloride. Either because I did not procure as fine a sample as that used by him, or for some other reason, it was found to be so irritating to the skin as to cause me to refrain from using it. Peat, dried and powdered moss or turf-mold, and Esmarch's latest innovation, "*Wald-Wolle*" (pine cones or needles, ground and prepared), we have not tried, for the reason that we found that the easiest to obtain, as well as that which gave the greatest satisfaction in every way up to the time of our first using it as a basis for our antiseptic application, was pine sawdust, dried and forced through a common flour sieve, coarser particles and sticks being thus removed from it. After drying and sifting, we mix it in the proportion of one to one thousand mercuric bichloride, and, in order to prevent the decomposition of the

bichloride and the formation of calomel in the presence of so much organic matter, chloride of sodium, or pure common salt, is added in the proportion of four grains of the latter to every grain of the mercuric bichloride. The following is a good working formula, and sufficiently exact for all practical purposes: Dissolve twenty-four grains of chloride of sodium in half an ounce of glycerin, heated to the boiling point. Then dissolve six grains of corrosive sublimate in half an ounce each of sulphuric ether and alcohol. Mix these two solutions together, and triturate well with one pound of well-dried and finely sifted sawdust. Spread out to dry, and, when the ether and alcohol have evaporated, add naphthalin in the proportion of one part, by weight, to ten of the sawdust. Thus prepared, the sawdust will absorb about four times its own weight.

Iodoform, salicylic acid, and other antiseptics in powder form may be used instead of naphthalin, or the sawdust may be impregnated with carbolic acid, after the manner recommended by Symonds, of Oxford, and thus used to advantage; but, from the non-poisonous and unirritating character of naphthalin, and apparent specific influence over the contagion and spread of erysipelas, besides its, in our hands, well-tried and proved antiseptic qualities, we are fain to believe that it fulfills all the purposes of keeping up an antiseptic atmosphere in the dressings and about the wound. The corrosive sublimate in the absorbent material acts as a most powerful germ destroyer and disinfectant to the secretions as they come in contact with it. Thus we have in the dressing two valuable antiseptics, each of which fulfills a separate office; the bichloride, in the dry state in which we find it desirable to use it disseminated through our dry and absorbent sawdust, would be no bar to the entrance of air laden with germs directly to the cavity of the wound. But the naphthalin in the dressing, which under the influence of the heat of the body is being constantly given off in a gaseous state, keeps up a true antiseptic atmosphere, the gauntlet of which must be run by floating matter in the air finding access to the deep dressing. On the other hand, the somewhat scanty solubility of naphthalin in the wound secretions detracts from its usefulness somewhat in disinfecting them, while the ready solubility of the corrosive sublimate in these secretions, as they percolate into the sawdust pad, at once renders their decomposition impossible.

Desiring to still further increase the absorbent power of this class of dressings, after much inquiry and search I succeeded in obtaining a sample of so-called "wood-flour." This material is similar to the "wood-wool" of Professor Bruns, of Tübingen. After obtaining my first sample of it for trial and becoming satisfied as to its utility, I found it easy to obtain it in any quantity from N. R. Hopkins, Esq., of 72 Duane Street, New York. It is a very finely ground wood fiber, and is used in making oval picture-frames, medallion heads, etc., by hydraulic pressure, in paper-making and similar industries. It absorbs from ten to twelve times its own weight, and is the most highly absorbent material that I have ever used as a wound dressing. I procured a bale of it, for our use at the hospital, weighing about five hundred pounds, at six cents a pound; but I am informed that in smaller quantities it costs about ten cents. Prepared

the same way as described for the sawdust dressing, except that it need not be dried preliminarily, it possesses about three times as much absorbing power as the latter, and costs about one third more. Either is cheap enough, however.

In using the sawdust or wood-flour dressing, it is necessary to have some very coarse gauze with which to make the pads for the dressing. For this latter purpose nothing in my experience is so well adapted to the purpose, handy, and withal so cheap and easily obtained, as the material known as mosquito bar or netting. It is better to render it hygroscopic by boiling it for eight hours in a strong solution of common washing soda and then rinsing it out in clean water to get rid of the alkali. After drying, it may be folded in convenient-sized squares for future use. It is not at all necessary that bags should be made beforehand of the gauze; this is obviated by simply dipping a properly-sized square of the gauze in the one-to-one-thousand sublimate solution; when needed, it is spread out upon a common dinner-plate, or, when such is not at hand, upon the outspread palms, previously dipped in the same solution, of an assistant. Upon this square is piled, in its central portion, what may be judged a sufficient quantity of the sawdust or wood-flour. The pad is completed by doubling in toward the center the free margins of the square of gauze, and there securing them by a single safety-pin previously dipped in the sublimate solution. No protective is required; the pad is placed directly upon the wound and is so disposed that its thicker portion may be in position to receive the discharges from the drains. The pad is supported by naphthalinated cotton, or, what I have found to be equally serviceable for the purpose and which costs less than half as much, naphthalinated jute. A few turns of a roller bandage, applied to hold the dressing in position, is all that is required; no Macintosh nor outer impermeable covering is needed nor desirable. The indications for its removal are the same as in other antiseptic dressings, viz., unaccountably high temperature, excessive pain, or the appearance of the discharges through the dressings.

Such, I would say in conclusion, is a *résumé* of the antiseptic methods in vogue in the surgical wards of the hospital to which I have the honor to be a surgeon. I do not claim originality for all of them, nor can the special method of dressing described be considered as the result of any one man's thought; it is simply the outcome of our own experience and that of others. We fully believe, however, that, with corrosive sublimate and naphthalin as our fixed dressing, and carbolic acid for our instruments, and, again, corrosive sublimate for irrigating (for this we use almost exclusively in redressing, when there are no instruments in the way to become blackened), we practice antiseptic surgery with pleasure to ourselves and profit to our patients.

For the beautifully prepared naphthalinated cotton and jute, samples of which I have the pleasure of exhibiting, I am indebted to Mr. C. Am Ende, of Hoboken, N. J., who has made special efforts to place at the disposal of the profession reliable antiseptic dressings of every kind, including the wood-flour. Mr. G. H. Sohns, of this city, prepares the catgut according to the method above given. The latter gentleman also prepares the sawdust and wood-flour.

POISONING BY QUININE IN TYPHOID FEVER.

By D. S. LAMB, A. M., M. D.,

ARMY MEDICAL MUSEUM, WASHINGTON.

SEVERAL articles on the subject of the use of large doses of quinine in typhoid fever, where their use has been followed by dangerous symptoms, have appeared in late medical publications. In this connection the following case may be of interest:

A little white boy, aged three years, had had slight diarrhoea and a little fever for about a week, but, as he kept about the house, his mother did not suspect serious disease, and therefore did not seek medical advice. About noon, July 11, 1877, he found a package of eighteen three-grain sugar-coated quinine pills, and, so far as could be learned, swallowed them all. Shortly afterward he took some rice and milk. About half an hour after swallowing the pills he complained of pain in the epigastrium. An emetic of mustard, salt, and water was given, and he vomited some food and one pill. He died at 1.10 o'clock, apparently of syncope, and but little more than an hour after the ingestion of the pills. Dr. W. W. Johnston, Dr. Lovejoy, and Dr. Riley (the latter now deceased) were called, but failed to arrive in time to be of service.

It was deemed advisable to inspect the body, and, accordingly, an examination was made by me twenty-three hours after death, the physicians named being present. The body was well nourished, the skin of a citron tint. The head and spinal canal were not opened. The heart was relaxed, the right cavities were empty, the left contained a little fluid blood. The lungs were congested posteriorly. The liver and pancreas were normal. The Malpighian bodies of the spleen were well marked. The stomach was congested, and presented a number of red ecchymoses; it contained some undigested rice, a thick whitish liquid, and one pill, which was white and partly softened. The duodenum was much congested and contained milk coagula, a few grains of rice, and one pill; Brunner's glands were conspicuous and white; the villi were hypertrophied. The upper part of the jejunum was much congested, and contained milk coagula and one pill; all the solitary bodies and Peyer's patches were much thickened, and the peritoneal surface opposite the enlarged patches presented arborescent congestion; the villi were hypertrophied. In the ileum also the villi were hypertrophied, the solitary bodies and Peyer's patches progressively enlarged, and there was the same arborescent congestion as above mentioned; the contents were dark and granular. The cæcum and the ascending and transverse colon were congested, and the solitary bodies enlarged; the contents were soft and greenish, with some fruit-skins in the cæcum. There was a slight extravasation of blood in the gastro-colic omentum. Specimens 8,831, 8,882, and 8,833, Pathology, Army Medical Museum, are from the case, as are also a number of permanent microscopical slides.

From the point of view of the intestinal lesions, the case does not admit of a doubt as to its being one of typhoid fever, although the clinical history is meager enough. The absence of medical attendance is unfortunate in depriving us of more exact data.

Four quinine pills of the eighteen are accounted for, one being vomited and three found at the post-mortem examination, leaving fourteen pills, or forty-two grains, which presented themselves for local effect and absorption to the stomach and the upper part of the small intestine. This

portion of the alimentary tract responded in the form of congestion and ecchymoses. The coincidence of the relaxed heart and, apparently, death from syncope point, as I understand, to the usual manner of death in poisoning by quinine.

Death came speedily in this case, but, as the following and others will show, that is no cause for surprise. Dr. J. W. Wright ("New York Med. Jour.," February 2, 1884, p. 116) reports a case of a child of ten years sick with catarrhal pneumonia after measles. On the tenth day, and by mistake on the part of the nurse, twenty-five grains of quinine were given by the mouth and twenty-five by the rectum. Within two hours the child went into collapse, but subsequently recovered. Of course, it is impossible to tell, either in his case or the one reported by me, how much of the drug was absorbed.

The case appears, therefore, to prove that a child of three years, at the end of the first week of typhoid fever, may die in a little over an hour, and from syncope due to the ingestion of forty-two grains or less of quinine, the quantity absorbed being indeterminate. The case is of further interest in view of the infrequency with which post-mortem examinations are held on the bodies of children dead from typhoid fever. Hænoch reports but ten from his large clinical experience.

A CASE OF CEREBRAL CONGESTIVE APHASIA.

By GRÆME M. HAMMOND, M.D.,

LECTURER ON ELECTRO-THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

Cases of aphasia from localized cerebral congestion, though not rare, are of such infrequent occurrence as to prove interesting, both from a clinical and from a diagnostic point of view.

The patient, who presented himself at Professor William A. Hammond's neurological clinic at the Post-Graduate Medical School, is a man fifty-two years of age, unmarried, and was formerly a liquor dealer, though for the past five years he has not been engaged in any business. He denies emphatically any history of syphilis, and states that up to the time he was first taken with his present complaint he had never had occasion to employ the services of a physician. About the first part of March, 1879, he began to suffer from insomnia, dreams of an unpleasant character disturbed what little sleep he could obtain, and there was a constant singing noise in the ears. He did not consider these symptoms alarming, believing they would pass off by themselves in a little while.

On the 10th of that same month he went into a store to buy some nails, and, without any previous warning of what was about to occur, found he was unable to ask for the articles he wanted. His aphasia was of the atactic variety; there was no confusion of ideas, or loss of memory of words, but the power of co-ordinating the muscles necessary for articulation was lost. This attack lasted about half an hour. At the expiration of that time his speech was suddenly restored and he was apparently as well as he ever had been.

On December 3, 1880, nine months after his first attack, he awoke in the morning and found he was unable to move either his arms or his legs. On attempting to call for help he could only give utterance to inarticulate cries, the atactic aphasia having supervened with the paralysis of the extremities. His speech,

as in the previous attack, was restored in about half an hour, but it was a day before he could move his arms and legs, and three days elapsed before sufficient strength returned to enable him to walk.

Two years and four months later, on March 2, 1883, he was again suddenly seized with atactic aphasia, but no paralysis accompanied this attack. It lasted half an hour. On February 3, 1884, he had his last attack. It was similar in every respect to those preceding it, except that it was unaccompanied by paralysis. At the expiration of half an hour he recovered his speech entirely. At the present time he seems to be perfectly well, his object in appearing at the clinic being to prevent, if possible, the occurrence of any more attacks.

It is impossible to attribute these seizures to any other cause than a localized congestion of the speech tract, and, in the second attack, to an extension of this congestion to the motor areas for the arms and legs. The transitory character of the aphasia and the brief duration of the paralysis exclude the existence of any severe lesion, such as hæmorrhage, emboli, or a tumor, while localized congestion is more clearly indicated by the precursory symptoms of insomnia, noises in the ears, and unpleasant dreams which preceded each attack of aphasia. The treatment prescribed for him was based upon this view of the case, and bromide of sodium was given in fifteen-grain doses three times a day. This treatment will be continued for a considerable length of time, the patient being ordered to report his condition every two weeks.

A CASE OF OEDEMA GLOTTIDIS FROM SYPHILITIC ULCER OF THE LARYNX; TRACHEOTOMY.

By R. B. JESSUP, JR., M.D.,

HOUSE SURGEON TO THE CHAMBERS STREET HOSPITAL.

GERARD ROCKWOODS, aged forty-five, a native of Italy, was brought to the Chambers Street Hospital, in the ambulance, at 10.12 p. m., February 25, 1884, suffering from great dyspnoea. It was learned from his relatives that he had been coughing for four or five months; that, about a week before his admission to the hospital, he had "taken cold," and had been obliged to remain in bed. About three days before he was brought to the hospital he began to notice a difficulty in breathing. This trouble gradually increased until it assumed an alarming aspect, and the ambulance was called.

On his arrival at the hospital the dyspnoea was so severe that he was fairly gasping for breath. He could not lie quiet, but sat up in bed, and, at each inspiration, elevated his chin and braced himself in his effort to breathe. He spoke in a hoarse whisper, and occasionally he coughed in a short, croupy manner. His temperature was 99.5° F. No diphtheritic membrane was seen on the fauces or tonsils.

Steaming cloths were placed around his neck, steam inhalations were given, and internal medication was resorted to. These methods of relief were carried on until 4 a. m. of the 26th, without any good results. He seemed sinking rapidly, and tracheotomy was done as a last resort. At the time of the operation the patient was unconscious, cyanotic, and breathing only six times to the minute. The operation was done in the ordinary manner, with little or no hæmorrhage; and, in about half an hour after it was done, the patient was breathing with ease. He regained perfect consciousness in about three hours, and drank milk freely. At 10 a. m. his temperature was 103.5°; at 6 p. m.,

103°; at 8 A. M. on the 27th, 99.5°. A laryngoscopic examination of the throat revealed the vocal cords covered with a yellowish, caseous material, which could be wiped off, but its nature or origin could not be made out. On the morning of the 28th the temperature was 104°, the pulse 120, and the patient very weak. He gradually sank during the morning, and died at 2 P. M. of the same day.

The autopsy revealed old adhesions over the right side, and on the left side posteriorly; the lungs were normal and well supplied with air; the spleen was normal; the kidneys were slightly enlarged, but normal in structure; the stomach was normal; the liver was large, but normal in structure, with two recent depressions from the dyspnoea on the superior surface; the œsophagus was normal; the larynx had an area of ulceration beneath the vocal cords, extending downward an inch and a half, and being three quarters of an inch in width, laying bare the lower half of the thyroid cartilage, which was ossified and necrosed. The whole mucous membrane was thickened, with a Y-shaped scar about half an inch below the ulcer described above. There were areas of pigmentation on the right leg.

A diagnosis of œdema glottidis was made when he first came into the hospital, but the cause of it could not be made out. The ulcer was, in all probability, syphilitic in its nature, for the scars of old ulcers were found on the leg, and his nose was sunken and deformed. That there was œdema present was not doubted by any who saw him before tracheotomy was done, and even at the laryngoscopic examination the parts were still somewhat œdematous and swollen. The caseous matter seen could not have produced the intense dyspnoea in itself, for it was not tenacious in its consistence, and could be easily wiped away. Authorities agree that the œdema of syphilitic ulcer of the larynx differs from that of tuberculous laryngitis in that it is more gradual, whereas the œdema of tuberculous laryngitis is quite abrupt in its development.

The case is one of interest, taking its ante-mortem and post-mortem history, and should, I am inclined to believe, be added to the few cases of œdema glottidis from syphilitic ulcer of the larynx.

Book Notices.

A Treatise on Bright's Disease of the Kidneys: its Pathology, Diagnosis, and Treatment. With Chapters on the Anatomy of the Kidney, Albuminuria, and the Urinary Secretion. By HENRY B. MILLARD, M. D., A. M. With numerous original illustrations. New York: William Wood & Co., 1884. Pp. xiv-246.

It is to be said of this work, in the first place, that it gives a clear and accurate account of the anatomy of the kidney, well illustrated by drawings, for the most part made by the author. Following the anatomical part, an equally satisfactory section is found on physiology. Chapter VIII is devoted to a consideration of the significance of the existence or non-existence of albumin in the urine, and the general conditions of its occurrence in health and disease. This is a most admirable chapter, and one calculated to do much good. The author clearly points out, what has for a long time been recognized, that albumin may exist in the urine temporarily without signifying kidney

degeneration. On the other hand, he remarks, kidney degeneration may exist without the presence of albumin in the urine. The tests for albumin in the urine are fully discussed, and the possible sources of error with each of them are pointed out.

In regard to the classification and nomenclature of Bright's disease, Dr. Millard considers that all forms of nephritis may be comprised in three classes: the croupous, the interstitial, and the suppurative. He looks upon the waxy and the fatty forms of degeneration as simply intercurrent or consecutive to one of those mentioned, and seems to substantiate his position by deductions from the most recent researches in pathology. It is hard to give up Dr. Grainger Stewart's beautiful and plausible division, founded on Virchow's pathology, but Dr. Millard would, nevertheless, adhere to the classification we have mentioned.

Each form of the disease is fully discussed, with its ætiology, pathology, clinical history, diagnosis, prognosis, and treatment. The section devoted to treatment is particularly valuable, being a *résumé* of what is known on the subject, illumined by the author's experience extending over a period of twenty-six years.

The book adds to the sum total of our knowledge of so-called Bright's disease, and we can heartily commend it.

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Brain Exhaustion, with some Preliminary Considerations on Cerebral Dynamics. By J. Leonard Corning, M. D., formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. New York: D. Appleton & Co., 1884. Pp. 234.

A Course of Instruction in Zootomy. (Vertebrata.) By T. Jeffery Parker, B. Sc. Lond., Professor of Biology in the University of Otago, New Zealand. With seventy-four illustrations. London: Macmillan & Co., 1884. Pp. xxiii-397. [Price, \$2.25.]

Handbook of Vertebrate Dissection. By H. Newell Martin, D. Sc., M. D., M. A., Professor in the Johns Hopkins University, and William A. Moale, M. D. Part III. How to Dissect a Rodent. New York: Macmillan & Co., 1884. Pp. iv-169 to 247, inclusive. [Price, 60c.]

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M. D., LL. D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, Philadelphia, etc. Illustrated with Engravings on Wood. Sixth edition, revised. Philadelphia: J. B. Lippincott & Co., 1884. Pp. 967. [Price, \$6.]

Clinical Lectures on Mental Diseases. By T. S. Clouston, M. D. Edin., F. R. C. P. E., Physician Superintendent of the Royal Edinburgh Asylum for the Insane, etc. To which is added an Abstract of the Statutes of the United States and of the Several States and Territories relating to the Custody of the Insane. By Charles F. Folsom, M. D., etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxiv-33 to 550, inclusive.

Elementary Principles of Electro-therapeutics, for the Use of Physicians and Students. With 135 Illustrations. Prepared by C. M. Haynes, M. D. Chicago: The McIntosh Galvanic and Faradic Battery Co. Pp. 426.

A Treatise on Ophthalmology, for the General Practitioner. Illustrated. By Adolf Alt, M. D. Chicago, St. Louis, and Atlanta: J. H. Chambers & Co., 1884. Pp. xvi-244.

Beginnings with the Microscope. A Working Handbook containing Simple Instructions in the Art and Method of Using the Microscope and Preparing Objects for Examination. By Walter P. Manton, M. D. Illustrated. Boston: Lee & Shepard, 1884. Pp. 11 to 73, inclusive. [Price, 50c.]

The Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F. R. C. S., Assistant Surgeon to the Westminster Ophthalmic Hospital. With eighty-seven illustrations. London: J. & A. Churchill, 1884. Pp. xi-204.

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Congenital Lipoma. By A. Jacobi, M. D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, New York. [Reprint from the "Archives of Pediatrics."]

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Ueber einen Fall von Tubo-Ovarialcysten-Schwangerschaft. Beitrag zur Entwicklung der Tubo-Ovarialschwangerschaften. Von Fs. Vulliet, o. ö. Professor an der Universität Genf. [Reprint from the "Archiv für Gynäkologie."]

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On the Use of Force in the Treatment of Club-foot. By E. H. Bradford, M. D. [Reprint from the "Boston Medical and Surgical Journal."]

Iodoform in Dental Surgery. By C. F. W. Bödecker, D. D. S., M. D. S., New York. [Reprint from the "Independent Practitioner."]

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Neurological Specialism. Presidential Address delivered at the Annual Meeting of the New York Neurological Society, May 1, 1883. By W. J. Morton, M. D., New York. [Reprint from the "Journal of Nervous and Mental Disease."]

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Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General April 1, 1884, or at date of last report received at this office.

Report of the New York Hospital Saturday and Sunday Collection of 1883, together with a Sketch of the Association, its Objects and Results.

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THE ALCOHOL QUESTION.

Two aspects of the problem presented by the action of alcohol on the system have lately been under discussion in a somewhat prominent form abroad. The first relates to the matter of State control of inebriates, on which subject Dr. H. C. Tweedy read a paper at a recent meeting of the sub-section of State medicine of the Academy of Medicine in Ireland, an abstract of which we find, together with the discussion, in the "Dublin Journal of Medical Science." Beseet as it was with obstacles, chiefly the deep-rooted prejudice against any form of interference with the liberty of the subject, and wide-spread incredulity as to the efficiency of the measure, the idea of the State control of inebriates had been steadily gaining ground, Dr. Tweedy stated, ever since it was first broached, in 1855. He looked upon dipsomania as a form of insanity, involving a slow but sure course of self-destruction, practically a species of suicide, and against such a process the State had a right to interfere, to say nothing of the subservieney of individual rights to the general good. As to the objection that the power to incarcerate inebriates afforded unprincipled persons an opportunity of putting troublesome relatives out of the way, the danger was no greater for an inebriate than for a lunatic, and it was exceedingly improbable that two medical men of integrity would lend themselves as accomplices to such a fraud. It seems that the present law of the United Kingdom requires the consent of the drunkard to be obtained before he can be committed to a "retreat"; there is no provision for the detention of paupers; and the Habitual Drunkards' Act of 1879, under which commitments are made, is limited in its operation to a period of ten years, the consequence of which is an absence of any inducement for private enterprise to be directed to the founding of retreats. These defects in the law Dr. Tweedy would have corrected, and he urges an early resort to treatment, with a continuance of the detention until a cure is effected, or at least for a period of twelve months.

In the discussion, Dr. Henry Kennedy remarked that in the results reported from America he had not heard of any positive cures, and it was conceded that the number of cures was considerable, amounting in fact to none at all except when treatment was undertaken very early. The argument, so often brought up, that a very large percentage of crime was the result of intemperance, was criticised by Dr. Cameron, who remarked that no doubt it often happened that drunkards were thieves, and robbers, and murderers, but it was simply a coincidence that a man who was a robber, a burglar, or a murderer should also be a drunkard. That seventy-five per cent. of the persons committed to prison drank, he added, was highly proba-

ble, but it was equally probable that seventy-five per cent. of those not committed to prison drank too.

The other aspect of the matter of the relations of alcohol to public health to which we allude concerns the question of the elimination of the drug from the system or its assimilation. Under the heading "Is Alcohol a Food?" an editorial writer in the "Gazette hebdomadaire de médecine et de chirurgie" gives a critical summary of a discussion that was lately held in the *Académie de médecine* by M. Dujardin-Beaumetz and M. Maurice Perrin. The former took the ground that alcohol was in some degree an aliment, while the latter maintained that it simply passed through the system unchanged, being wholly eliminated by the skin, the kidneys, and the lungs. For obvious reasons, the writer in question remarks, M. Perrin has not been able to recover all the alcohol administered to animals experimentally, but he has been able to show the fallacy of those who attribute its excretion as such to the fact of its having been taken in amounts in excess of the assimilative power, for he has found it in the pulmonary, the renal, and the cutaneous exhalations when only very small quantities had been ingested. Moreover, he has never found aldehyde in the blood or the viscera after the ingestion of alcohol, from which he concludes that the latter is not oxidized in its passage through the system; and, like Proust and Vierordt, he has found that taking alcohol decreases the exhalation of carbonic acid.

The acid breath of drunkards, it is true, attests the acidification of the alcohol exhaled, but there is reason to believe that this takes place not only in the stomach, but also in the mouth—in the latter both before and after its elimination by the lungs. To the criticism of those who object to the inference drawn from the diminished excretion of carbonic acid, and urge that alcohol, on account of its richness in hydrogen, is converted more into water and less into carbonic acid than the other hydro-carbons when taken into the system, the writer replies that the hypothesis is not in accord with observed facts concerning the elimination of alcohol. He suggests a point that was not brought out in the discussion, that of the influence to be attributed to the degree of dilution of the alcohol before its ingestion—the more it is diluted the more likely it is to be partly assimilated. Attention is called also to the interpretation of the pathological effects of the agent, and especially to the obesity of drunkards, cirrhosis of the liver, and fatty deposits in the heart, the muscles, etc., which have been explained without sacrificing the doctrine of the combustion of alcohol in the system, notably by a sort of asphyxia of the blood-corpuscles, a retardation of the processes of oxidation, and a storing of hydro-carbonaceous materials. But, in regard to these matters, the writer concludes, our knowledge is still very defective.

HYDROPHOBIA IN BIRDS.

HERETOFORE it has been commonly supposed that birds were proof against rabies, but M. Paul Gibier, as we learn from the "Union médicale," recently related before the French Academy of Sciences some interesting facts and experiments bearing upon the question. Having inoculated a great many birds without

any effect that could be construed as at all specific, and in many instances without any appreciable result whatever, it happened to him at last to observe, among a number of birds inoculated, a domestic fowl which was attacked, fifteen days after the inoculation, with a paresis of the lower limbs and of the extensor muscles of the neck. When the hen was set at liberty and frightened, she tried to escape, but, being unable to stand on her feet, could only drag herself along on the ground with the aid of her wings. When in her cage, she remained motionless, and seemed incapable of holding her head up, letting it fall forward slowly until the beak touched the floor. Then she would raise her head suddenly, and again let it fall; and this she repeated incessantly. These symptoms continued for several days, and it was supposed that the fowl would die, but one morning she was found to have recovered from her paralysis, and she survived.

Regarding this case as quite exceptional, M. Gibier thinks it legitimate to conclude that the microbion of hydrophobia is capable of pursuing its evolution in the nervous tissue of birds, being finally eliminated without having given rise to lesions incompatible with life. This inference he founds on the fact that the brain of an inoculated bird is capable of conveying the disease to other animals by inoculation, but he has not yet tried inoculation from bird to bird, nor has he ascertained if one inoculation confers immunity against subsequent inoculations. The settlement of these points he looks upon as likely to throw a good deal of light on the nature of the disease, and perhaps to be of service in leading to a system of preventive inoculation of the human subject, resting this hope, apparently, on the idea that successive inoculations of birds will result in a mitigation of the disease. It must be conceded that the course of investigation undertaken by M. Gibier is one of great interest.

THE ALLEGED DETERIORATION OF THE PURITAN STOCK.

THAT figment of the imagination, the physical degeneracy of the American people, is a favorite topic with many well-meaning persons, and, although we can not help thinking that their uniform success in showing, all unconsciously, the fallacy of the assumption with which they set out is owing to their having thought of the subject superficially and from a prejudiced point of view, it must be admitted that the practical suggestions they are moved to make, with a view to avoid the continued action of the causes that they fancy to be keeping up the process they have pictured to themselves, are often of the greatest value.

With writings that seem to be open to this interpretation we must class a pamphlet, by Dr. John Ellis, entitled "Deterioration of the Puritan Stock, and its Causes." The author rests his inference as to the physical degeneration of the native population of Massachusetts chiefly on the comparative infecundity of the women—a circumstance which his own arguments go far to show to be wholly unconnected with degeneracy of a physical sort, even if we were to accept fecundity as the touchstone of vigor. This *non sequitur*, however, does not in the least detract from the wholesomeness of Dr. Ellis's

arraignment of the women of Massachusetts (or, for that matter, of both the women and the men of other parts of the country) for their neglect of the most obvious rules of correct living from a physical point of view. The reader who can make allowance for the irrelevance of this much of the argument, and can also stomach the long digression bearing upon the teachings of Swedenborg, will be both instructed and profited by studying the pamphlet.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

LAST year we expressed our high appreciation of the Association's meeting for the year 1883, and now we have to chronicle another annual gathering that may fairly be said to have been equally profitable. More papers were prepared for the meeting than for any other which the Association has held—except that of last year, and the papers were of a high order of merit. We are happy to be able to announce to our readers that, by an arrangement with the Association, we shall publish all of them in full, together with the discussions. Besides the formal papers, a great number of new instruments were presented, and they were of unusual merit, showing decided ingenuity and originality of design. It was thought that a new nomenclature would be presented for discussion, but it was not brought up. Important as such a matter is, and interesting as it is to laryngologists, if anything had to be omitted, it was certainly wise to let the nomenclature lie over.

Apart from its scientific aspect, it is gratifying to learn that the material interests of the Association are in a satisfactory condition, the financial statement having shown that the organization was free from debt. Although the meetings are not held at any one fixed place, the Association has a library, and is making an effort to collect the literature pertaining to laryngology. It may be within the power and the inclination of many of our readers to aid in this undertaking, and we are assured that any gifts to the library, either in the form of books, of pamphlets, or of periodicals devoted to the specialty, will be thankfully received. They may be sent to the librarian, Dr. Thomas R. French, No. 469 Clinton Avenue, Brooklyn.

MINOR PARAGRAPHS.

A "COLLECTIVE INVESTIGATION" BY THE STATE BOARD OF HEALTH.

A QUESTION of great practical moment often arises after the recovery of a patient from an attack of one of the infectious diseases, that, namely, of the length of time that must elapse before it is safe to allow the convalescent to go about again among the people at large—in other words, when the patient *per se*, setting aside the consideration of the matter of fomites, ceases to be capable of conveying the infection. We are glad to see that the secretary of the State Board of Health, who finds that local health officers and school trustees are often puzzled by the question, has issued a circular letter of inquiry to a number of prominent hospital physicians and teachers, asking them to give the board the results of their observation of facts bearing upon the question as regards small-pox, diphtheria, scarlet fever, measles, whooping-cough, and typhus.

In view of the great practical utility of such an inquiry, we trust that those whom the secretary has addressed will respond

promptly and fully to his queries; and it seems to us desirable, indeed, that some discussion of the matter should be had also in a more public way than would be involved in the mere relation of personal experience in the shape of communications to the board of health.

INDIGENOUS MEDICINAL PLANTS.

THERE can be no doubt that the botany, the chemistry, and the pharmacy of the medicinal plants of this country need to be investigated more fully than those of most of them have been investigated heretofore; or that the results of intelligent studies in this field should be brought widely to the knowledge of the medical profession. We trust that much may be accomplished in these directions through the medium of a new quarterly publication, entitled "Drugs and Medicines of North America," edited and published by Messrs. J. U. and C. G. Lloyd, of Cincinnati. The first number, dated April, 1884, deals with *Clematis virginiana*, *Thalictrum dioicum*, *Thalictrum anemonoides*, *Anemone nemorosa*, and *Anemone patens*, a considerable amount of space being given to the last-named plant, which is the American pulsatilla. A peculiar feature of the publication is that it gives the views of prominent representatives of the three leading "schools" of medicine, and it is announced that the next number will contain contributions from Professor Roberts Bartholow, Professor E. M. Hale, and Professor J. M. Scudder.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 13, 1884:

DISEASES.	Week ending May 6.		Week ending May 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	9	3
Typhoid Fever	12	5	10	4
Scarlet Fever	82	18	80	17
Cerebro-spinal meningitis ..	5	4	4	3
Measles	106	20	131	17
Diphtheria	39	24	48	18
Small-pox	0	0	1	0

THE INTERNATIONAL MEDICAL CONGRESS AT COPENHAGEN.—We learn from the "Centralblatt für Gynäkologie" that papers are expected to be read, or discussions held, on the following subjects in the *gynecological section*: Antisepsis in laparotomy; narcosis in laparotomy; early ovariectomy; laparotomy for fibrous tumors of the uterus; oöphorectomy for fibrous tumors of the uterus; oöphorectomy for nervous and psychical affections; vaginal extirpation of the cancerous uterus; dilatation of the uterus; the operative treatment of prolapse of the uterus and vagina; ovulation and menstruation; the operative treatment of extra-uterine pregnancy; on a uniform obstetrical nomenclature; the significance of albuminuria gravidarum; the treatment of abortion; the management of the placental stage of labor; anesthesia in childbirth; the treatment of rupture of the uterus in labor; the treatment of neglected transverse presentations; the Cæsarean operation and its substitutes; the statistics of puerperal fever in Denmark, Norway, and Sweden.

THE INTERNATIONAL CONGRESS OF HYGIENE will hold its fifth annual session at the Hague, August 21-26, 1884.

THE LOUISIANA STATE MEDICAL SOCIETY will hold its sixth annual meeting at Baton Rouge, beginning Wednesday, May 21st. The secretary gives notice that business of great importance concerning State legislation and proposed changes in the society's constitution renders a full attendance desirable.

SOPHISTICATED COFFEE.—It is reported that the sanitary officials of Brooklyn recently took some specimens of coffee beans from an establishment where they were undergoing a process of polishing, and, on chemical examination, found them dangerously contaminated with lead; whereupon Health Commissioner Raymond summoned the persons engaged in the business to appear before him for a hearing on the 12th inst.

RECENT PARIS THÈSES.—The following "Thèses de Paris" are mentioned in recent numbers of the "Progrès médical": Phenic Acid in the Treatment of Secretory Affections of the Eye, by M. Denis; A Study of Certain Points in Experimental Meningo-myelitis, by M. Dagonet; Solid Tumors of the Mediastinum, by M. Bertrand; The Preventive Treatment of Lymphangitis and Abscess of the Breast during Lactation, by M. Ressein; Certain Accidents of Growth—the Osteo-myelitis (Growth-Fevers), by Mrs. Agnes Lowry; Intestinal Hemorrhages in Typhoid Fever, by Miss Isabel Lowry; Lupus and its Relations with Scrofula and Tuberculosis, by M. Renouard; On a New Theory of the Cheyne-Stokes Respiratory Phenomenon, by M. Piaggio; Paralysis of the Sciatic Nerve of Pelvic Origin (their Pathology), by M. Dorcon; A Contribution to the Study of Ocular Affections due to Small-pox, by M. Tourneau.

THE "ARCHIVES OF PÆDIATRICS," heretofore published by its editor, Dr. W. P. Watson, of Jersey City, is to be issued in the future from the New York office of Messrs. J. E. Potter & Co., of Philadelphia. This change must be taken as a sign of the prosperity of the "Archives."

THE NEW YORK POLYCLINIC.—Dr. Thomas A. McBride has been elected a professor of diseases of the mind and nervous system. We congratulate the school on the fitness of this selection.

THE FRENCH ASSOCIATION FOR THE ADVANCEMENT OF THE SCIENCES will hold its thirteenth annual meeting at Blois, from the 4th to the 11th of September, 1884.

PROFESSOR MILNE-EDWARDS, according to the "Union médicale," has been made an officer of the Legion of Honor.

THE COLLEGE OF PHYSICIANS AND SURGEONS held its seventy-seventh annual commencement at Steinway Hall on Tuesday afternoon, the 13th inst. The new president, Professor John C. Dalton, occupied the chair for the first time on such an occasion. The Rev. Sullivan H. Weston, D. D., officiated as the chaplain of the college, and the Rev. Howard Crosby, D. D., delivered the address to the graduating class. The degree in medicine was conferred upon one hundred and five gentlemen. Dr. W. H. Draper, the president of the Alumni Association, announced the award of the alumni prize of \$500 to Dr. Moses Allen Starr, of the class of 1880. Dr. John G. Curtis, the secretary of the faculty, announced the awards of the Harsen prizes and the faculty prizes.

THE MEDICAL SOCIETY OF NORTH CAROLINA will hold its thirty-first annual meeting at Raleigh on Tuesday, the 20th inst. At the same time and place the State Board of Medical Examiners will examine applicants for license.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.—The sixth annual session was held in New York on Monday, Tuesday, and Wednesday of this week, and the programme announced in our last issue was substantially gone through with. The papers, with the discussions upon them, will be published in full in this journal. The following-named gentlemen were elected officers for the ensuing year: Dr. E. L. Shurley, of Detroit, president; Dr. J. H. Hartman, of Baltimore, first vice-president; Dr. William H. Daly, of Pittsburgh, second vice-president; Dr. D. Bry-

son Delavan, of New York, secretary and treasurer; Dr. Thomas R. French, of Brooklyn, librarian; Dr. Frank Donaldson, of Baltimore, and Dr. F. H. Bosworth, of New York, new members of the council. The next meeting will be held at the call of the council.

THE NEW LABORATORY BUILDING FOR THE BELLEVUE HOSPITAL MEDICAL COLLEGE will be begun on the 7th of June, and it is expected that it will be completed late in the autumn. It is to consist of a front and rear section, connected with each other by a corridor. The front section will be devoted to laboratories, while the rear section will contain a large auditorium, to seat four hundred students, together with the museum and the library. Light-shafts will be arranged in the corridor. The museum is to contain specimens in pathological anatomy, for microscopical sections and for demonstrations in the class-room and the laboratory. The library will be devoted to books, pamphlets, and periodicals relating to pathological anatomy and histology, and it is intended to make it the most complete of its kind in the country. The faculty-room, the private rooms, and the lavatories will be arranged on the first floor. The stairs will be twelve feet wide. There will be accommodations in the cellar for the animals kept for experimental purposes, including a frog-pond, dog-kennels, and pens for rabbits, guinea-pigs, etc. Here also there will be a crematory. We are glad to learn that subscriptions for the necessary funds are coming in satisfactorily, the sum of \$5,000 having been given for apparatus alone. As we mentioned last week, the site of the building is to be in East Twenty-sixth Street, near First Avenue.

THE NEW YORK CANCER HOSPITAL.—The corner-stone of the hospital building will be laid this afternoon, Saturday, May 17th, at four o'clock. The site purchased for the hospital is a plot of ground, 180x200 feet in dimensions, on Eighth Avenue, between 105th and 106th Streets, facing the Central Park. We understand that the work will proceed rapidly. The fund, including Mr. John Jacob Astor's handsome gift of \$200,000, now amounts to \$375,000.

A FEMALE MEDICAL MISSIONARY.—Miss Sarah L. Weintraub, a native of Jerusalem, and a graduate of the Women's Medical College, of Philadelphia, left the country recently, for the purpose of doing duty as a medical missionary at Damascus, where her services will be given to the Arab women, whom the customs of the country debar from the attendance of medical men.

THE LATE DR. SAMUEL D. GROSS.—After the incineration of Dr. Gross's remains, the ashes were interred in the Woodlands Cemetery, Philadelphia. It is understood that the Jefferson Medical College will establish a chair of pathological anatomy in his honor, to be known as the Gross professorship, and that the American Medical Association will erect a statue to his memory.

THE OREGON STATE MEDICAL SOCIETY will hold its eleventh annual meeting at Portland, Tuesday, Wednesday, and Thursday the 27th, 28th, and 29th inst.

A "LIGHTNING TOOTH-PULLER," or "king of pain," as he is variously styled, is reported to have undertaken the removal of a tumor from a man's head recently, in Troy. He succeeded in tearing the growth away, but the patient died in the course of a few days, and since that time the "king of pain" has not been accessible.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 4, 1884, to May 10, 1884:*

WEBSTER, WARREN, Major and Surgeon. Granted leave of

absence for six months, from April 29, 1884, on account of sickness. Par. 5, S. O. 103, A. G. O., May 3, 1884.

STEENBERG, GEORGE M., Major and Surgeon. Now at Governor's Island, New York Harbor, ordered to repair to this city (Washington, D. C.), to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to meet on May 5, 1884, and, on adjournment of the Association, to return to Governor's Island. Par. 2, S. O. 103, A. G. O., May 3, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending May 10, 1884:*

GRAVATT, C. W., Passed Assistant Surgeon. Detached from Naval Hospital, Chelsea, and ordered to U. S. S. Michigan.

HARMON, G. E. H., Passed Assistant Surgeon. Detached from the Michigan and granted leave of absence.

EDGAR, J. M., Assistant Surgeon. Ordered for examination preliminary to promotion.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, May 19th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Roman Medical Society (private).

Tuesday, May 20th: Medical Association of Central New York (Syracuse—annual); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburgh, N. Y., Medical Association.

Wednesday, May 21st: New Jersey Academy of Medicine (Newark).

Thursday, May 22d: Harlem Medical Association (private).

Friday, May 23d: New York Clinical Society (private); Yorkville Medical Association (private); New York Society of German Physicians (private).

Saturday, May 24th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

PROFESSOR C. A. WURTZ.—It was only last month that Professor Dumas died, and now a press dispatch announces the death of Professor Charles Adolphe Wurtz, another eminent French chemist. For a number of years he was the dean of the medical faculty of Paris, at various times he taught chemistry in several institutions, and he was the author of many contributions to the literature of that science.

DR. URIAH H. HOLBROOK, OF PROVIDENCE, R. I.—Dr. Holbrook died May 8th, after a long illness, at the age of thirty-four. He was a graduate of Brown University and of the Harvard Medical School, and had been in successful practice for about eight years.

Letters to the Editor.

THE STATE SOCIETY'S COMMITTEE ON LEGISLATION.

NEW YORK, April 12, 1884.

To the Editor of the New York Medical Journal:

SIR: In the issue of your journal of the 12th inst., in the discussion on the subject of the College of Midwifery, Dr. Piffard is reported as saying that "the impression had gone out through the medium of the 'New York Medical Journal' that it was the duty of the Committee on Legislation of the Medical Society of the State of New York to take action to prevent the passage of a bill relating to the establishment of a certain college of midwifery in this city, and the regulation of the practice

of midwifery in this State. That bill, as was well known, had many very objectionable features, and it was a duty of the profession to the public to have it defeated. But it was a mistake to suppose that the Committee on Legislation of the State society should assume this responsibility. That committee had too much to attend to already, and had not been furnished with means to enable it to assume and execute further work."

Let us see if this supposition is a mistake, or whether the mistake is not with the Committee on Legislation.

A short time since I wrote a letter to the secretary of the State society asking him what were the duties of the Committee on Legislation of the State society, which elicited the following reply:

"7 MYERS BLOCK, SYRACUSE, N. Y.,
"February 27, 1884.

"F. R. STURGIS, M. D.

"DEAR DOCTOR: In reply to your inquiry as to the functions of the Committee on Legislation, I copy the by-law on the subject (see Trans., 1880, appendix, p. 10, sec. 5). 'There shall be a standing committee on legislation, consisting of three members, the duties of which shall be to watch the course of State legislation on medical subjects and to take charge of such matters pertaining to medical legislation as shall be referred to them by this society, and all resolutions touching medical legislation shall be referred to this committee, which shall make a report thereon to this society as soon as possible. It shall also at each annual meeting report to the society any laws relating to medical matters that may have been passed within the year.'

"The watching the course of State legislation on medical matters was, at the time of the adoption of the by-law, considered one of the most important duties of this committee. The watching includes, I take it, the putting forth all proper efforts to prevent the passage of laws detrimental to the interests of the medical fraternity, and also, as seems to me, the helping on of all medical legislation that is plainly for the welfare of the profession. The main object had in view was the *defeating of all bad medical legislation*, as I remember the matter."

This seems to me plainly what the committee is appointed for. The mere watching of bills is of no service if the committee is to do nothing to oppose bad or to assist good legislation. That the committee has its hands full I can well understand, and succeeding committees are likely to find the same thing true, but that is no excuse for neglecting to attend to the interests of the profession in this State, nor is the plea that it has no money to expend for the execution of further work. The committee should have asked for means to carry out the work which it is its duty to attend to. The society would, I believe, have appropriated funds for that purpose.

Yours very truly,
F. R. STURGIS.

NAIL-BITING AND HEART DISEASE IN CHILDREN.

MONTICELLO, IND., May 8, 1884.

To the Editor of the New York Medical Journal:

SIR: I desire to call the attention of the medical profession to a peculiar symptom I have noticed in three cases of valvular disease of the heart in children.

The patients were all females, aged nine, ten, and thirteen years, and each was affected with mitral insufficiency, which was produced by rheumatism. The peculiar symptom or habit to which I refer is biting the finger-nails off very close on each hand.

Each patient, when her attention is not called to something else, constantly keeps one hand or the other near the mouth and bites off the nail of each finger as far down as possible.

I would like some physiologist to explain the pathology of the habit.

It is a question with me whether or not there is any connection between the heart trouble and the habit.

I desire all members of the profession who may read this card to examine their patients who have valvular disease of the heart and notice whether or not they are addicted to this habit. I have never noticed it in adults who have valvular disease.

Yours truly,
R. J. CLARK, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 1, 1884.

HORACE T. HANKS, M. D., Vice-President, in the chair.

A MEMOIR OF THE LATE DR. EDWARD L. BEADLE was read by DR. JOHN G. ADAMS. Among Dr. Beadle's most prominent characteristics was a well-balanced mind, combining with wisdom great prudence and self-control, and charity toward all men. He threw all his influence on the side of right. He was severely just, inflexibly honest, and had the intense courage of his convictions; he was wise in counsel, endowed with executive ability, great in goodness, great in beneficence, genial, loving, a great-hearted man. The memorialist recounted in a vivid manner the numerous duties performed and places of responsibility held by Dr. Beadle. More than half of his estate was left to benevolent institutions; liberal donations had been made to the Academy, and five thousand dollars were bequeathed to it in his will.

STUDIES IN ENDOMETRITIS.—DR. M. PUTNAM JACOBI read a paper in which she spoke of the utero-ovarian system as made up essentially of the endometrium and the cortex of the ovary, which were physiologically continuous. Together, these tissues constituted an organ which might be called the germinating membrane. This system underwent certain cyclical changes, which she spoke of as the greater and the lesser, the former connected with pregnancy, the latter with menstruation. The characteristic disease of the greater cycle was subinvolution, including both the uterus and the parametrium. Disease arising from the lesser cycle, endometritis, was analogous to the former, and consisted in a subinvolution of the endometrium. Nearly all other utero-ovarian diseases might in like manner be traced to disease of this so-called germinating membrane: perimetritis and parametritis, resulting from inflammation of its lymphatics, or irritation of its vascular radicles; softening of the uterine stem, the natural consequence of catarrh; versions, due to atrophy or want of innervation of the uterine supports; oöphoritis, always secondary to fundal endometritis, etc. Utero-ovarian diseases, therefore, were due to a deviation of the process of growth proper to the utero-ovarian tissue. The most ordinary aspect of this deviation was called inflammation, and occurred during the active period of cyclical development. For both the success and the safety of local treatment of endometritis, it was essential to take into account the local rhythmic changes of which the utero-ovarian system was the seat. Applications, if used, should be made to the endometrium shortly after menstruation, and, if made twice during the month, the second application should be made not later than the tenth day after the cessation of a period. She was persuaded that in the perfectly normal condition the weight of the uterus was not increased during menstruation. She did not believe there was congestion of the substance of the uterus, or increased development of structure, as commonly taught. Antelexion she regarded as due to reflex nerve irritation in the round ligament, originating

in an endometritis; posterior displacements were due to relaxation of the ligaments of support, from atrophy or want of proper innervation due to the same cause. In prolapsus there was complete absence of innervation of the uterine supports. Effectual treatment lay in re-establishing the normal physiological conditions of the utero-ovarian system, which could not be expected to take place from the mere use of pessaries. Some cases would be cured with proper exercise, gymnastics, massage, and improved hygiene; others would be found completely relieved by a single application to the endometrium. The object of intra-uterine applications was the ultimate destruction of the sub-involved portion of that membrane. No application should be made with the idea of producing an astringent effect, as the mucous membrane of the uterus, like a new growth—a nevus, for example—was not susceptible of being a-tinged. An indirect benefit attending the applications was the reflex stimulus which they imparted to the neighboring diseased structures. The author spoke of the dangers of intra-uterine applications, and especially of the use of tents; in some conditions she would employ carbolic acid and iodine; but these remedies should not be so universally used as it seemed they were. Iodine, especially, was an irritant. Particular attention was directed to the necessity of preventing or curing endometritis, upon which so great a variety of pathological conditions depended, and of attention to the cyclical changes in directing local treatment. Ovarian pain before menstruation was commonly due to changes in the fundus of the uterus, and might be relieved by applications to the fundal endometrium. Many symptoms, usually regarded as ovarian, or as due to disease of the cervix, were really due to disease of the fundus. On account of the reflex or propagating influence, however, of remedies applied to the cervix, benefit might be given to the diseased membrane of the fundus.

Dr. PAUL F. MUNDÉ was glad to hear the point brought out so clearly that there were two conditions which were accountable for endometritis, namely, menstrual subinvolution and puerperal subinvolution. That a large proportion of cases were due to this cause, subinvolution, was evident from the large size of the uterine canal so often present. He was also convinced that a large proportion of cases of pelvic cellulitis and pelvic peritonitis were due to extension of irritation from the endometrium, and that, to remove the tendency to recurrence of these inflammations, we must remove the endometritis. He also indorsed the ætiology of uterine displacements which the author had given; but in versions he thought that the heavier the fundus the more likely were they to occur. As to the prognosis, it was not very promising; usually we could only palliate, or produce a temporary cure. He agreed with the author that the cyclical change should be observed in making applications, and that they should not be repeated too frequently. He was not opposed to strong applications, and he had seen benefit from the curette.

Dr. W. GILL WYLIE thought that, if endometritis proved to be incurable, it was due to the fact that the disease had involved the Fallopian tube, and this, being tortuous, when distended with secretions, contained irritating matter which poured over the mucous membrane of the uterus. He believed that intractable endometritis was very frequently due to specific disease, to gonorrhœa, which so often gave rise to salpingitis. Local treatment was apt to prove dangerous, and he thought it wise always to give the patient about six weeks' rest in the active stage before making local applications. He had obtained special benefit from a small tampon soaked in glycerin introduced up to the cervix; afterward, adding alum to make it strictly antiseptic, iodoform was dusted on, and, if he used a tent to produce dilation, this also was rendered antiseptic with iodoform. He thought applications were commonly made too frequently.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of May 6, 1884.

F. W. BARTLETT, M. D., President, in the chair.

THE PRESIDENT appointed Dr. M. Hartwig, Dr. M. D. Mann, and Dr. C. C. F. Gay as the Finance Committee for the ensuing year.

THE USE OF THE OPHTHALMOSCOPE IN GENERAL MEDICINE.—Dr. LUCIEN HOWE spoke on this subject, illustrating his remarks with charts, drawings, and a magic lantern, and exhibiting a number of patients. He said the ophthalmoscope was an essential aid in diagnosis, and especially in kidney disease, and believed it to be as necessary as the microscope. There was really no difficulty in making an examination of the retina, if we took care to have the eye, the light, and the observer in one line. Here he illustrated the position to assume, and exhibited several instruments. He then entered into a detailed description of what one should see in retinitis albuminurica, lucæmia, and syphilitica. The amount of albumin was not always a guide to the diagnosis of renal affections, but retinitis was almost certain to be found in some degree. Syphilis showed itself both in the retina and in the choroid. Albuminuria was much more frequent in pregnancy than many imagined, and this form of retinitis would readily assist in the diagnosis. Dimness of vision was discovered in the course of the pregnancy, and even permanent blindness might result. Dr. Howe related several interesting cases as examples. In such cases the retinitis might become so severe as to call for the induction of premature labor to save the patient. We recognized also a form of retinitis in diabetes, for that disease did not manifest itself in the eye in cataract alone.

Dr. HARTWIG thought Dr. Howe was correct in saying that general practitioners should understand this instrument. The medical colleges should teach the use of it, and in Germany they were now beginning to require a knowledge of ophthalmoscopy of candidates for the medical degree.

Dr. HUBBELL thought that much more might have been added concerning diseases upon which this instrument threw light, especially obscure difficulties of the brain—such as tumors—and diseases of the spinal cord. It was an instrument sufficiently simple in its principles, and both the ophthalmoscopic and the otoscopic mirrors should be brought into more general use.

Dr. MARY B. MOODY mentioned a case that had been sent to Dr. Noyes, of New York, with loss of vision in one eye. The patient was returned to the city to be treated for a rheumatic deposit in the eye, and with a prescription for citrate of lithium, under which there was great improvement. She would like to ask Dr. Howe to explain this condition.

Dr. HOWE responded that the iris only was affected in rheumatic difficulty, and not the retina.

Dr. CROSVY did not know that doctors would ever cure their albuminuric patients because they discovered a retinitis albuminurica; but, if a patient had dimness of vision, by the use of the ophthalmoscope the physician might be led to examine the urine. Perhaps numbers of those present had treated epileptics with bromide of potassium, some of whom recovered while others did not. By means of the ophthalmoscope, the two forms of epilepsy—the one depending upon anemia and the other upon plethora—could be distinguished, and, in consequence, the physician would know when to make use of the bromides and when of iron. He had read recently of a case in which there were strange vacillations of vision and variations in sight, where the ophthalmoscope assisted in the diagnosis of a tumor. The blindness in cases of puerperal albuminuria was illustrated by a remarkable case of his own. It was found that the patient had

had a little dimness of vision in her first and second pregnancies. In her third, for which he was called at the eighth month, he found her perfectly blind, and, to ward off convulsions, he induced labor at that period. She recovered well from this, and was in pretty fair health, but died, at the end of three months, from Bright's disease.

Dr. KING thought a wide field was opened for the ophthalmoscope in the diagnosis of syphilitic and albuminuric diseases.

THE PRESIDENT remarked upon the advances we were making in instruments of precision.

Dr. HOWE said he would like to mention a case of brain complication. He had seen a boy, with Dr. Mynter and Dr. Diehl, who had incipient retinitis, with paralyses of the third and sixth nerves, and difficulty with the sense of smell. He prognosticated a loss of sight, hearing, and smell, and the case had so resulted. At this time the boy's only means of receiving impressions from the outer world was the sense of touch. He would say to his mother, "Shake my leg when the doctor comes." Dr. HOWE made a diagnosis of tumor in a certain convolution, and found it, at the post-mortem examination, exactly in that location. He said it was out of the question to diagnose cerebral hyperemia with the ophthalmoscope, as much so as to diagnose the condition of the meninges through the ear.

Dr. HARTWIG asked how Dr. HOWE would account for such a case as this—viz., a person becoming completely blind for twenty-four hours and then suddenly recovering his vision perfectly.

Dr. HOWE thought it might be due to an infiltration of serum.

Dr. CRONYN suggested its being a form of edema fugax, which Dr. Hartwig accepted as a good explanation.

MAMMARY DEVELOPMENT IN THE MALE.—Dr. HARTWIG had seen a man lately with one developed breast. It felt in every way like a woman's breast. It was not a tumor, for the man had had it all his life. It was not adipose tissue, for he was emaciated. Hyrtl cited a case, in his "Anatomy," of a man sucking his child.

Dr. CRONYN said it was a common practice in India for men to nurse the children, as reported by Dr. O'Shaughnessy.

Dr. FRANK mentioned the case of a man he had seen lately with two large, pendulous mammae.

Dr. HARTWIG demurred to this, saying it was probably an unusually large deposit of adipose tissue. But Dr. FRANK was confident he knew the difference between male and female breasts.

Dr. PARK stated that it was the custom in Pomerania to train men as wet-nurses. He had lately seen an unusually interesting case of a supernumerary breast in the axillary region of a woman.

THE PRESIDENT'S ADDRESS.—The PRESIDENT read the following:

Entering upon the duties of another year, each and all of us are doubtless desirous that this association should, profiting by the experience of the past, enlarge its sphere of influence and usefulness, and continue to be the representative medical association of the city. Upon my accession to the chair I have but little to say beyond expressing my thanks for your kind consideration. The only suggestion that occurs to me at present is the conducting of some part of our work by means of sections. In most large medical societies two or more sections are recognized, and it seems to me that I rightly construe the signs of the times in recommending this departure. I should be glad to see four sections—viz.: medicine, surgery, obstetrics, and pharmacy—organized.

With reference to the working of such sections I have no personal experience, but doubtless many members of the association are familiar with details.

By our act of incorporation and by-laws, committees may be appointed to report upon any topic or subject, and, if the association is not ready to decide upon the feasibility of the plan proposed, I would like a committee appointed to report at our next meeting. The reports of the sections may be made at regular meetings or sub-meetings, and for the use of any or all sub-meetings for the year I tender my offices, if acceptable, without expense of any kind. They are so located as to be easily reached. The best evidence that we have reached a period in our history favorable to the proposition is the recent creation of special societies to discuss matters entirely germane to our own work. The promoters give evidence of a laudable ambition, and yet it seems to me that the work they undertake might be much better performed within our own association. I have thought, if these views favorably affect you, of proposing that each member be asked to intimate his preference as regards assignment to a particular section, and, when sections are established, each shall appoint its officers, dates of meeting, and the plan of its work.

By this course we concentrate instead of dispersing.

These remarks are intended merely to bring the subject before you. I shall very cheerfully assent to any plan that represents the wishes of the majority.

I am very desirous that the great body of regular physicians in Buffalo may be inspired to act harmoniously and industriously in advancing the interests and prestige of this association, which has existed nearly forty years and been honored by the membership of many of the most distinguished physicians of the country.

After some discussion by Dr. COAKLEY, Dr. FRANK, and Dr. CRONYN, a motion was finally carried that the President appoint a committee of five to consider his recommendation, he to serve as one of the members. The committee named for this purpose was as follows: President BARTLETT, and Dr. COAKLEY, Dr. CRONYN, Dr. HOWE, and Dr. KING.

REPORTS OF PREVAILING DISEASES.—Dr. MARY MOODY had seen and heard of several cases of puerperal fever.

Dr. CRONYN had had a great number of scarlet-fever patients, most of them with light symptoms, but a few of these with severe sequelae, such as dropsy and hæmaturia.

Dr. KING also reported the prevalence of scarlet fever of a mild type, and had observed a tendency to puerperal fever in his confinement cases.

THE PRESIDENT coincided with the other gentlemen in his observations of scarlet fever. He had seen very little diphtheria of late.

FREDERICK PETERSON, M. D., *Secretary*.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of April 15, 1884.

THE PRESIDENT, Dr. JOHN A. MCCORKLE, in the chair.

THE DISABILITY IN DOUBLE, OR SIMULTANEOUS, FRACTURES OF THE PATELLE.—Dr. J. S. WIGHT read a paper with this title. [See p. 541.]

DOUBLE AMPUTATION OF THE ANTERIOR PART OF THE FEET, AFTER ERICHSEN.—Dr. WIGHT also read the histories of two cases of this sort. [See p. 543.]

In the discussion on Dr. Wight's first paper, Dr. G. H. ATKINSON remarked that, in his opinion, but few of these cases were reported, and he wished it were possible in this country to keep trace of such patients a sufficient length of time to enable one to see the results. He had had a case of double fracture of the patella, which was a refracture, the patient having been treated before by a surgeon on Long Island. The refracture was produced by the patient's rising suddenly from a kneel-

ing posture. The result of treatment was not satisfactory, there being a kind of ligamentous union, but not of sufficient strength to enable the patient to use the limbs freely. Another case had come under his observation, that of a baseball-player, who, while running down hill, slipped and fell in soft earth on his knees, fracturing both patellæ. He saw the patient but once, and the attending surgeon did not report the result.

Dr. WIGHT said that there might have been cases of double fracture of the patellæ the results of which were so unfavorable that they had not been reported. He had recently treated a case of fracture, nearly transverse, of the left patella, complicated by complete avulsion of the lower fragment from the tibia, or rupture of the ligamentum patellæ. The lower fragment was much displaced upward at the time of the injury. The result had been good; the bond of union between the fragments was about a quarter of an inch long, and the ligamentum patellæ had been quite well repaired.

Dr. J. H. H. BURGE remarked that Dr. Markoe had recently reported to the New York Surgical Society a case of simultaneous rupture of both quadriceps tendons, which had happened in the practice of Dr. Weir [see the "New York Medical Journal" for April 5th, p. 389]. It was three months since the accident, and the patient was able to walk slowly. Dr. Burge referred to the case as bearing upon the question of permanent disability. He thought there was likely to be a marked contrast in this respect between the cases of fractured patella and those of rupture of the tendon.

ANTISEPTIC SURGERY IN PRIVATE PRACTICE.—Dr. FRANK W. ROCKWELL read a paper with this title. [See p. 543.]

HOSPITAL ANTISEPTIC SURGERY.—Dr. GEORGE R. FOWLER then read a paper with this title. [See p. 546.]

The two papers being under discussion, Dr. FOWLER wished, at this early stage, to take exception to Dr. Rockwell's statement that his dressing was a modified antiseptic one. It was not; it was a thoroughly antiseptic one, and very efficient, and all the precautions adopted by him were in accordance with strict antiseptic rules and principles.

Dr. ROCKWELL thought his friend Dr. Fowler had slightly misunderstood his application of the word "modified." The dressing was modified simply in so far as it discarded the "protective" Macintosh and the cumbersome outer layers of gauze and cotton, at one time considered so essential to success. The naphthalin was so free from all irritating qualities that no protective was needed, the wound surface being directly in contact with the powdered drug; and the outer layers were done away with, as only enough gauze was needed to confine the vapor of naphthalin to the wound district and absorb the discharges if any occurred. He was thoroughly in accord with those who believed in strict antiseptics, though he thought the theory which considered germs only as the causes of danger was open to some practical objections. As to the spray, its total discontinuance was, he believed, a mere matter of time, as, with thorough irrigation of a wound with antiseptic fluids, it could be left in as safe condition as with the spray, and with far less trouble.

Dr. WIGHT had always been greatly interested in antiseptic surgery, but he wished to have it understood that, in his opinion, Listerism was not the whole of antiseptic surgery. He had been delighted to listen to the very able papers of Dr. Fowler and Dr. Rockwell; he wished to say, however, that he had treated cases side by side, with different forms of disease, without the application of Listerism, and these patients had had no rise of temperature. We must go back of the wound—to the foundation of all our researches, viz., to the cell. Feed the patient, give him milk-punch if necessary, and good, nourishing sustenance—feed the patient, and thereby the cells of the body,

to enable them to overcome the germs—or, rather, give the patient fresh air and appropriate food, to enable the somatic cells to resist the influence of the bacteria so far as possible; for antiseptic surgery was not altogether confined to local applications.

Dr. FOWLER said: "In listening to the remarks just made by Professor Wight, one is reminded of a story of the illustrious Valentine Mott. It is reported of him that, being invited to be present at the ligation of the femoral artery by a surgeon possessed of more confidence than skill, and seeing the operator at one fell swoop slash through skin, fascia, and underlying structures within the vessel's sheath, he exclaimed: 'God help the patient!' and immediately afterward, as he saw the vessel remain uninjured, 'God has helped the patient.' It seems to me that, in a similar sense, one may exclaim, when presented with facts such as we have just heard, 'God did help the patient.' No surgeon should think of going from a patient, in such a condition as has been described, to another suffering from an open wound; and, if, happily, such risk of infection is followed by no evil consequences, surely no one should follow such a precedent. Besides, under strict antiseptic treatment such conditions do not exist, and the surgeon may go from one patient to another, with antiseptic precautions, with no fear of being the bearer of poisonous material."

Dr. WIGHT, replying to Dr. Fowler, said that he had always taught all the nurses and *internes* to be scrupulously exact in regard to cleanliness, washing their hands in chlorine-water before going from one patient to another. To show what could be done without the antiseptic method, he related the case of a man, seventy years of age, who had a compound fracture of the left knee, with the bones sticking out. The wound was cleansed and dressed with cotton wool, sealing up the wound and effectually making the fracture a simple one. The man recovered without a single untoward symptom, and died six years afterward with Bright's disease. Antiseptic surgery was good, but the surgeon must keep his hands clean as he went to successive patients. He also related another case, that of a young man who had a small wound in his larynx, and who had careful antiseptic treatment. He died of pyæmia in a few days. He might remark that this young man had a most "inconsistent" physique, while the old man had a physical constitution remarkable for its powers of resistance.

Dr. ERNEST PALMER wished to call attention to the fact that Dr. Wight's patient was a man who had all his life been "soaked" in whisky, and therefore was in a totally antiseptic condition.

Dr. ATKINSON alluded to the story of the two valiant knights meeting and looking on the opposite sides of a pendent shield, one of them declaring it to be of silver, and the other of gold. After they had fought over the question for some time, a friend interfered, and showed each of them his error by turning the shield around. He would suggest a plan to harmonize the conflicting theories. He thought pressure on a wound was dangerous, forcing back into the tissue the products of the injury and inflammation. To him, there seemed less danger from sepsis from without than from within. He was glad to see the whole scheme portrayed which provided for the conveying away of those products of which he had spoken, as well as for affording protection from outside sepsis; and in the future he would use it. His criticism on previous methods was, that antiseptic dressing did not provide for carrying away the products of the wound or injury; hence, in a large number of cases, leading to more danger than it provided against. He would cite the cases, just read by Professor Wight, of amputation after sloughing from frost-bite, where the tissues were infiltrated, and the escape of discharges had to be provided for.

AMERICAN MEDICAL ASSOCIATION.

SECTION IN MEDICINE.

Dr. JOHN V. SHOEMAKER, of Philadelphia, Chairman.

Session of May 6, 1884.

THE SIMULATION OF PATHOGNOMONIC SIGNS AND SYMPTOMS was the title of a paper read by Dr. E. G. JANEWAY, of New York. He had been led to write it by the many mistakes caused by relying on the so-called pathognomonic signs. Snap diagnoses were very liable to lead to mistakes. Choked disc was at one time thought to be pathognomonic of cerebral tumor; we now limited it to an indication of increased intra-cranial pressure. Certain conditions of the retinal vessels were also relied upon as determining the state of the circulation within the brain—tremor as indicating multiple sclerosis, but, before this meaning can be attached to it, metallic poisoning and the effects of alcohol must be excluded. The significance of coma was often difficult to determine. Some asserted that in uræmia the temperature was elevated, others that it was normal. A lower temperature at the onset, with a subsequent elevation, is relied upon by the author as indicating cerebral hæmorrhage. Some would rely upon albumin and casts in the urine, but this might be misleading, for in cerebral hæmorrhage there was often renal disease. There was no reliable guide in distinguishing embolism from hæmorrhage. Heart symptoms might exist, and yet the case not be one of embolism, while, on the other hand, they might be absent, and yet the attack be one of embolism, the embolus coming from a clot outside of the heart. In some cases of fever there was rigidity of the muscles of the neck, and this might lead to the diagnosis of meningitis. Vocal fremitus could not be relied upon as distinguishing consolidation of the lung from pleural effusion. It might be present in the latter condition, and might even be intensified. Bronchial breathing was frequently present with pleural effusion. It was, however, usually found at the upper limit, and was somewhat sniffling in character. Sometimes it was so distinct that the best observers might be misled. The physical signs of a cavity might exist with the lung solidified or compressed by fluid. The writer drew attention to what he termed normal pectoriloquy. In heart diseases, it is supposed that murmurs heard over the heart were due to disease of the valves. This was not always true. The double arterial murmur was not always diagnostic of aneurysm, the writer having reported cases in which it was due to the pressure of a tumor. He then alluded to the great liability of mistaking the dyspnoea of Bright's disease for that accompanying cardiac troubles. Albumin sometimes occurred in the urine in healthy individuals, and hyaline casts might come from healthy kidneys.

Dr. DONALDSON, of Baltimore, thought there were points of distinction between the bronchial breathing of pleural effusion and that of pneumonia. In pleurisy it was more pronounced on inspiration than on expiration, and less harsh. It was not ordinarily heard at the commencement of the effusion. At least one third of the pleural cavity must first be involved. Serious lesions of the heart might not cause murmurs. This was preeminently true in excessive insufficiency of the mitral valve, the intensity of the murmur being inversely proportional to the size of the orifice. He could recall eleven cases of mitral stenosis uncomplicated by a murmur.

Dr. J. S. LYNCH, of Baltimore, referred to a case which he had seen a number of years ago in which bronchophony was associated with pleurisy. He explained its occurrence by the existence of adhesions between the pulmonary pleura and that of the diaphragm preventing compression of the lung.

Dr. JANEWAY stated that the bronchial breathing was heard near the top of the fluid in pleural effusion. The mistakes were made by not recognizing this peculiarity.

THE CLINICAL STUDY OF THE HEART SOUNDS.—Dr. AUSTIN FLINT, Sr., of New York, read a paper in which he divided the heart sounds into five distinct sounds, two of which were diastolic and three systolic. The diastolic sounds were the aortic and pulmonic. The systolic sounds were the mitral, the tricuspid, and the sound of impulsion produced by the impulse of the heart against the chest-wall. The booming character of the first sound was due to the impulse. This was heard with the greatest intensity at the apex. The mitral sound was heard a little to the left of the apex, while the tricuspid was heard to the right. He next considered the significance of alterations in the character of each of these sounds. Incompetency of the aortic valve was generally, if not invariably, represented by a regurgitant murmur. This simply showed incompetency without giving any idea as to the amount, which was to be determined from other points, particularly a comparison with the power of the left ventricle as shown by the sound of impulse. Abnormal increase in the intensity of the aortic sound was referable to two causes: 1. Increased power of the systole of the left ventricle. 2. Increased blood pressure in the systemic arteries. Experiments tended to show that increasing the blood pressure had no effect on the aortic sound. The intensity of the pulmonic sound was increased by increase of the blood pressure in the pulmonary arterial system. Insufficiency of the mitral valve was represented by a murmur which gave no information as to its amount. The sound of impulse furnished this. The sound of impulse was increased in cardiac hypertrophy, and diminished or absent in weakness of the ventricular systole. Alterations in the tricuspid sound were not of much importance, on account of the rarity with which this valve was diseased. Hypertrophy of the right ventricle intensified it.

Dr. F. C. SHATTUCK, of Boston, stated that many authors maintained that the muscular contraction was an important element in the formation of the first sound of the heart.

Dr. JAMES C. WILSON, of Philadelphia, referred to the fact that the Germans had for some time been following the plan suggested by Dr. Flint in the study of the heart sounds. He had himself been employing a similar plan, dividing the sounds into four instead of two. He would like to hear what Dr. Flint had to say in regard to the muscular contraction being one element of the first sound.

Dr. MCSHERRY, of Baltimore, spoke of the value of a study of the pulse, and contrasted our present knowledge of diseases of the heart with that of thirty years ago.

[At this point a telegram was received from Philadelphia announcing the death of Professor S. D. Gross. A motion to adjourn the meeting of the section was made. Before the question was put, Dr. AUSTIN FLINT, Sr., stated that he had been an intimate friend of Dr. Gross's for over thirty years, and he believed that Dr. Gross would be the last to wish the proceedings to be interrupted by his departure from this world. The motion was lost.]

Dr. LYNCH referred to the importance of alteration of the aortic sound in Bright's disease. He thought a large part of the booming character of the first sound was due to the vibration of the aortic walls at each systole. He could not understand why increase in the blood pressure in the large arteries should not increase the intensity of the aortic sound. Dr. Flint had stated that the intensity of the pulmonic sound was increased by increase of blood pressure in the pulmonary arterial system. Why should not the same result follow increased pressure in the systemic arteries?

Dr. GARLAND, of Boston, said it was often difficult to decide

whether a murmur was coincident with or replaced the cardiac sound. This was important to decide in diagnosis. He spoke of the importance of getting rid of the respiratory movements in trying to determine this point. A murmur would sometimes disappear when the breath was held for a moment. A deceptive murmur was sometimes heard at the base of the heart, to the right or the left of the sternum and up and down its border. It was systolic in time. The peculiarity of this murmur was that it disappeared on full inspiration.

Dr. DONALDSON thought it a question whether or not the impulse of the heart could produce a sound. Muscular contraction did not produce a sound, or at least not of sufficient force to be heard without very delicate instruments. Experiments had shown that the first sound was produced by the closure of the mitral and tricuspid valves. Where these had been prevented from closing, the sound had been absent. In regard to presystolic murmurs, Dr. Leaming, of New York, had stated with much plausibility that they were not really presystolic, but occurred at the beginning of the systole.

Dr. FLINT, in concluding the discussion, said that many of the points advanced referred to the mechanism of the sounds and murmurs. This he had not touched on in his paper, and therefore he waived any consideration of it at this time. His paper was concerned solely with the clinical aspects of the heart sounds. In regard to the Germans having taught the subject in the same manner as he did, he would call attention to the fact that twenty-six years ago he had pointed out this plan. He could not explain why the blood pressure acted differently in the pulmonary and systemic arteries, but such appeared to be the fact.

DERMATITIS HERPETIFORMIS.—In a paper with this title, Dr. LOUIS A. DUHRING, of Philadelphia, grouped a number of cases of a rare disease of the skin which he had met with from time to time, having some features in common with several well-known diseases, notably herpes, pemphigus, and eczema, but which, nevertheless, was distinct from these affections. It manifested itself by the formation of erythematous patches of an urticarial or erythema-multiforme-like character; variable-sized, irregularly shaped or stellate, flat or raised, more or less grouped herpetic vesicles; blebs of similar character; pustules, flat or acuminate, whitish in color, with a more or less inflammatory base; and papules, vesico-papules, and variously sized, circumscribed infiltrations, all the lesions inclining to assume an herpetic character (taking herpes zoster as the type of eruption), accompanied with violent itching. One or another of these varieties of lesions might be present as one, or, as often happened, they might appear together as a mixed or multiform eruption, or the several forms might succeed one another during an attack or as a subsequent relapse. The disease was remarkable for the multiformity of lesion. Thus it might be divided into the erythematous, papular, vesicular, bullous, pustular, and multiform varieties. This protean and multiform nature of the disease had been previously pointed out by the author, in the second edition of his treatise on "Skin Diseases," in considering the "impetigo herpetiformis" of Hebra, which represented the pustular variety of dermatitis herpetiformis according to Dr. Duhring. The erythematous variety bore some resemblance to urticaria, and especially to erythema multiforme, the variation in color and pigmentation calling to mind the latter affection; but the course of the disease was chronic, this variety usually giving way sooner or later to three forms of eruption. The vesicular variety was of more frequent occurrence, the lesions varying in size from a pin-head to a pea. They were usually flat, irregularly shaped, angular, glistening, pale-yellowish, firm, and, as a rule, unaccompanied by areolæ. They were aggregated, or occurred in little clusters of two or three, and

might coalesce. The eruption was usually profuse, and, as a whole, was generally disseminate. In chronic cases there was considerable pigmentation. The itching was intense. Dr. Duhring regarded this variety of the disease as probably identical with the "herpes gestationis" of some authors. The bullous variety showed blebs, having general characters like the vesicular variety, and was liable to be mistaken for pemphigus. The pustular form exhibited itself in variously sized, rounded or flat, usually tense, whitish pustules, resembling impetigo and ecthyma. They inclined to flatten and spread on the periphery, crusting in the center. They possessed, usually, "angry-looking" areolæ, and had a "drawn-up" or "puckered" appearance, and, like the other lesions, tended to be angular in outline. They inclined to form in groups of two or three or more, which might coalesce. The grouping was further peculiar in that the central pustule was often immediately surrounded by a variable number of smaller (pin-point or pin-head sized) pustules, sometimes in a circular form, as in herpes iris. But this arrangement was not constant. This variety of the disease had been described by Hebra under the name of "impetigo herpetiformis."

In all the varieties of dermatitis herpetiformis there was a disposition for the lesions to manifest themselves in patches or in groups, taking on an herpetic character, and to extend about the periphery. A variable amount of constitutional disturbance was present, especially with each new outbreak. The itching and burning were violent. The disease showed a marked tendency to appear in crops, and, moreover, to relapse, its course often extending over years. All regions were liable to invasion. It occurred in both sexes, and usually in early adult or middle life. It was often met with during the parturient state, and was a serious disease, the pustular variety being especially grave. It was very rebellious to treatment. It was a neurotic manifestation. The author had encountered fifteen cases.

He concluded with the following *résumé*: 1. The existence is shown of a distinct, clearly defined, rare, serious, herpetic disease of the skin, manifesting itself usually in successive outbreaks, characterized by more or less systemic disturbance, a variety of primary and secondary lesions, and severe itching and burning. 2. The disease is capable of appearing in many forms, having a tendency to run into one another irregularly, the principal varieties being the erythematous, vesicular, bullous, and pustular, which may occur singly or together in various combinations. 3. The disease is protean in character, and is remarkable for its multiformity. 4. The pustular variety is the same manifestation as that described by Hebra under the name "impetigo herpetiformis." 5. The term "dermatitis herpetiformis" is sufficiently comprehensive and appropriate to include all varieties of the disease. 6. It may occur in both sexes, and in women independent of pregnancy. 7. It usually pursues a chronic, variable course, lasting years, and is very rebellious to treatment.

THE ETIOLOGY OF PERICARDITIS.—Dr. JAMES T. WHITTAKER, of Ohio, read a paper in which he remarked that pericarditis was frequently overlooked, from the fact that its local signs were not generally marked. It often occurred independently of rheumatism, although that was its most important single cause. It occurred most commonly between the ages of twenty and thirty, but it took place in children, and had even been noted in the fetuses. It was most common among those who worked hard. He divided it into two varieties, the consecutive or mechanical, and the infectious or mycotic. The first followed some direct injury from without or within. The second followed the infectious diseases. Any disease produced by a micro-organism might be accompanied with pleurisy. These organisms were especially prone to attack the serous membranes, because, in the

first place, their circulation was sluggish and at times stagnant, and, in the second place, in consequence of the abundance of their lymph spaces. In rheumatism, pericarditis occurred most frequently from the fourth to the fourteenth day of the disease. Tuberculosis might produce this disease mechanically or by the action of the micro-organisms.

Dr. BURRELL, of Florida, referred to the fact that impurities in the blood often caused symptoms closely simulating pericarditis. He also called attention to the frequent mistakes made in diagnosis.

THE PRODUCTION OF POISONS BY MICRO-ORGANISMS.—Dr. BLACK, of Illinois, read a paper which, after an extended review of the subject, he summed up in the following conclusions: "1. All cognizable forms of life are dependent upon the products of molecular change in matter for their continued existence. 2. Every cognizable form of life, capable of independent existence, must have the power of digestion for the preparation of food material for the nutrition of its material structure. 3. Each living cell must appropriate to its nutrition food material prepared by a digestive body of its own or by the appropriation of material prepared for it vicariously by some allied living cell. 4. Every living cell must support its life and material structure by a continued inhibition and remolecularization of matter within itself, except during special provisions of rest, as in the seed, egg, etc. 5. Every living cell must, as a result of the remolecularization of matter within itself, throw off waste products of two classes—a respiratory waste, rich in oxygen, and a urinary waste, poor in oxygen. All waste products are poisonous to the organism from which they emanate. 6. The natural organic poisons are uniformly waste products of the organisms in which they are formed. 7. Pathogenic micro-organisms, by their remolecularization of matter, form poisons analogous to the vegetable alkaloids, which are the active agents in the production of disease. 8. While I should not class the digestive ferments, diastase, etc., as organic poisons, they may act as irritants when applied to another form of life than that which produced them. 9. Normal tissues resist the invasion of the micro-organisms by throwing out matter calculated to destroy them or dissipate or nullify their action, aroused thereto by the presence of an irritant agent given out by the micro-organism."

THE NEW OFFICIAL CHLORATE.—Dr. TRAILL GREEN, of Easton, Pa., read a paper on the chlorate of sodium, which he regarded as far more efficient than the chlorate of potassium. He had been using it since 1866. It was soluble in one and one tenth parts of water. He then mentioned some of the diseases in which he had employed it. It was applicable to all conditions in which the potassium salt had been used. He had employed it in poisoning with the *Rhus toxicodendron* with great satisfaction, bathing the part with a solution of from one to three drachms to the pint of water. For eighteen years he had used no other treatment. A solution of twelve grammes to a litre of water was a soothing application in erysipelas. The caution was given not to allow the cloths saturated with the solution to become dry, because they were readily set on fire. In conjunctivitis a solution of 4 grammes to 500 c. c. of water was of service. The sodium salts did not act on the heart like the potassium compounds. A section of heart-muscle placed in a solution of potassium salt was soon completely paralyzed, but, if removed and placed in a sodium solution, its irritability was regained.

Dr. CALDWELL, of Baltimore, had also used the sodium chlorate with satisfaction, and fully indorsed the statements of Dr. Green.

Session of May 7, 1884.

EPILEPSY.—Dr. WILLIAM PEPPER, of Philadelphia, read a paper on this subject. In a purely clinical discussion of epi-

lepsy, our conception of the disease must be a broad one. Strictly, cases of organic disease should be excluded. This, however, was sometimes difficult. There was no trouble in those instances in which the common symptoms of brain tumor were present, but in those cases in which epilepsy followed sunstroke the distinction was not so clear. Hysteria should also be excluded. While typical epilepsy and typical hysteria were readily distinguished, yet there were many facts showing their analogy. Both epilepsy and hysteria represented conditions of malnutrition with morbid sensibility and irritability of nerve tissue brought about in the most varied manner. In hysteria it would seem that the ganglionic nervous tissue was especially vulnerable, and the gray matter within the encephalon less so, though instability of this might co-exist. Epilepsy would seem to depend upon a supremely unstable condition of one or more areas of the gray matter, rendering it liable to sudden and violent discharges. The most prominent causes were heredity, nervous exhaustion, as from over-growth, over-strain, or exhausting illnesses; shock or sudden powerful impressions, as from physical injury, with or without distinct lesion of the cranial bones; sunstroke; purely psychical shocks, as from fright, instability of the circulation, with disturbed nutrition of the brain, as in heart disease, and, in connection with heart disease, there was a possibility of minute embolisms interfering with the nutrition of small areas; prolonged peripheral irritation, especially chronic catarrhal irritation of the gastro-intestinal tract. A consideration of these points taught that epileptics were not afflicted with a single definite disease, but exhibited in common merely a state of impaired nutrition and morbid instability of the gray matter, varying greatly in different cases. In some cases there were probably minute molecular changes in the nervous tissue. In a larger number of cases, however, the recurring convulsions were connected, not with irregular advancing morbid tendency, or irregularly progressive anatomical change, but with an occasional and irregular operation of those widely different causes which were calculated to disturb the weak center and induce explosive discharges. It was important to recognize the degree of instability. Every one was liable to convulsions; it was merely a question of the provoking cause required. Provoking causes could not be found in all cases of epilepsy, but, the more closely they were sought for, the more frequently would they be found. Scarlatina was frequently followed by epilepsy. In some cases this was explained by the tendency to widespread tissue change, so that impaired nutrition of the gray matter might be expected to occur at times; in other cases this disease might act by leaving such a degree of renal insufficiency as would, under comparatively slight causes, lead to toxæmia, from the retention of malassimilated material, even without albumin in the urine. Where the morbid state had been brought about by sunstroke or exposure to excessive heat, it would often be found that attacks would be induced by undue exposure to the rays of the sun, or even to intense light. When it was associated with cardiac lesion, he had frequently noticed that muscular exertion or excitement of the circulation directly induced the attacks. In all cases, mental excitement, or too close application, or sexual excess, would favor the seizures. The statement that epileptics were in full health did not accord with his experience. Careful study had usually shown some derangement or impairment of important functions. No one plan of treatment was applicable to all cases, or even to a large majority, but each case required separate study and a special line of treatment. The primary cause should be removed if it could be discovered, and the same was true of the provoking cause. The leading principles of treatment were to relieve anæmia, neurasthenia, and morbid susceptibility by diet, change of occupation, change of residence, and rest. Intestinal irritation should be

removed, special reference being made to an absolute milk diet long continued. Other special forms of diet were required in certain cases. Nitrate of silver was of particular value where gastro-intestinal irritation was prominent. Over-exertion should be avoided in all cases, and especially in cardiac cases. Excitement and over-exertion of mind should also be guarded against. Counter-irritation should be employed, the best effect being obtained from the actual cautery, and this was of special value where definite intra-cranial irritation was suspected, as after insolation. The cautery occasionally exerted a good effect in organic cases. Trephining was valuable where circumscribed lesion of the cranial bones was suspected. The removal of genital irritation was important, but the value of circumcision had probably been over-estimated. It is important to arrest the attacks if possible, for their continuance strengthened the bad habit and rendered subsequent attacks more readily developed. The use of the ligature to arrest the aura, nitrite of amyl, and other expedients, might be tried. Various drugs were to be recommended, such as the bromides, belladonna, and asafoetida, enemata of chloral, iron and other tonics. The great value of the bromides was recognized, but caution was to be given in regard to their frequent failure, their abuse, and their dangers. The danger of drifting into a routine treatment was greater, and its results were more disastrous, in this disease than in any other.

Dr. AUSTIN FLINT, Sr., believed that the manifestations of epilepsy were dependent upon a toxic agent of some kind, produced in the body in some manner. He advanced the following points as favoring such a view: 1. The absence of any generally received pathological doctrine. He assumed as a postulate that epilepsy had no established anatomical characters. It might be associated with different lesions, and, in a certain number of cases, no lesion was discoverable. The rational inference was that these lesions had only an incidental connection, if their connection was not entirely accidental. It might also be asserted that the manifestations occurred without being preceded by any morbid condition which could be supposed to be causative. Epilepsy was essentially a neurosis. 2. There was an analogy between the phenomena of epilepsy and those known to be produced by a toxic agent. The closest analogy existed between epilepsy and uræmic coma and convulsions. An attack of the latter might so closely simulate epilepsy, or the reverse, that a diagnosis could not be made until the urine had been examined. Reasoning on the principle that like effects were referable to like causes, he submitted that the pathology of epilepsy was in some sense similar to that of uræmic coma and convulsions. 3. Certain facts in the clinical history of epilepsy were more readily accounted for on the view of a toxic agent than on any other supposition. Among these were the short duration of the epileptic seizure and the immediate recovery, in many instances, of the ordinary condition of health. In some instances the patient felt better after the attack. These facts were explainable on the view that the paroxysm was due to the accumulation of a toxic agent. 4. It was to be remarked that the local pathology did not exclude the probability that certain local morbid conditions were more or less important, and might be necessary to the development of the attacks. 5. Facts pertaining to therapeutics supported the doctrine of a toxic causation. Up to this time pathological views had failed to give a successful direction to therapeutical observations. The action of the remedies which had been found useful, as the bromides and belladonna, might be explained by saying that they enabled the nervous system to tolerate, to a greater or lesser extent, the toxic agent on which the disease depended.

The paper was further discussed by Dr. EUGENE GRISSON, of

North Carolina; Dr. J. F. HIBBARD, of Indiana; Dr. J. J. CALDWELL, of Maryland; Dr. JAMES TYSON, of Pennsylvania; Dr. BARTLETT, of New York, and Dr. PATTEE, of Massachusetts.

THE DIAGNOSIS OF TUMORS OF THE ANTERIOR MEDIASTINUM.

—Dr. JAMES C. WILSON, of Philadelphia, read a paper on this subject. The most frequent tumors were lymphoma, sarcoma, and carcinoma. Carcinoma probably never occurred as a primary disease. Primary sarcoma also was rare. Lymphadenoma was more frequent. The diagnosis of tumors of this space could not as a rule be positively made. The principal symptoms were: pain of a pleuritic character, superficial, not so deep as the pain of aneurysm; dyspnea; dysphagia; constriction and compression in the sternal region. The pain was apt to be paroxysmal, and this had a diagnostic value. Fever was absent unless due to inflammatory complication. Nutrition was often good, emaciation being, as a rule, due to pressure on the œsophagus. Inspection would disclose distension of the veins of the neck, protrusion of the eyeballs, inequality of the pupils, and tumefaction of the face and neck from serous infiltration. Asymmetrical protrusion of the upper part of the chest might also be present. Enlargement of the thyroid gland and of the glands at the root of the neck and in the axilla often occurred. On percussion, a modification of the area of dullness was found. The auscultatory signs varied greatly in different cases. The heart was usually enfeebled and its rhythm disturbed. The respiratory murmur was diminished, and stridor was less common than in aneurysm. Great enfeeblement of the respiratory murmur of one side might be of diagnostic value. The differential diagnosis from aneurysm was to be based on the history, the presence of malignant growths elsewhere, dullness on percussion without the characteristic signs of aneurysm, pain of a stitch-like character, the sense of constriction, and the age of the patient. Tumors were distinguished from pericardial effusion by the irregular outline of the dullness, the greater transverse diameter, the dullness being, as a rule, at a higher level than in effusion, and the absence of any of the common causes of pericarditis. The reader then went on to give the differential diagnosis between the different forms of tumor.

THE PATHOLOGY OF MYOCARDITIS.—Dr. WILLIAM H. WELCH, of New York, read a paper with this title. He thought too little attention was paid to this affection. Diseases of the heart-walls were among the most important to which the organ was liable, and, of all of them, myocarditis was the chief. He then described the anatomical peculiarities of this disease. It was not really an inflammatory change, but the result of degeneration, atrophy, and the deposit of fibrous matter due to defective nutrition. This was brought about by partial occlusion of the coronary arteries, another condition to which too little attention was paid. He reported a number of cases in which examination of the heart during life had revealed no positive signs of disease, but where there were found, after sudden death, occlusion of the coronary arteries and myocarditis. He classed the cases which he had seen as follows: 1. Cases where no symptoms referable to the heart were noticed during life, death occurring from other causes. 2. Sudden death without known symptoms referable to the heart, and where lesions of the coronary arteries and myocardium were the only assignable causes. 3. Sudden death, preceded by one or more attacks of angina pectoris. 4. Cases where some symptoms of cardiac insufficiency had been present for a short time. 5. Cases attended for months with the usual symptoms of disease of the valves of the heart.

The paper was discussed by Dr. FLINT, Sr., Dr. McSHERRY, Dr. DONALDSON, and Dr. JANEWAY.

IRREGULAR APOPLECTIC ATTACKS FROM OTHER CAUSES THAN HÆMORRHAGE OR EMBOLISM.—Dr. GASPAR GRISWOLD, of New York, read a paper in which he used the term apoplexy to de-

note the sudden onset of a train of symptoms in which unconsciousness, hemiplegia, and convulsions were more or less prominent, without any reference to the cause of the symptoms. Pathology taught us the dependence of apoplexy upon cerebral hemorrhage, embolism, and thrombosis, and enabled us to distinguish between them with considerable accuracy. We knew that unconsciousness was most profound in cerebral hemorrhage; that consciousness might be preserved in embolism, even when hemiplegia was well marked, and that in meningeal hemorrhage there might be coma and convulsions with ill-defined hemiplegia. Post-mortem examinations had placed the study of organic brain disease upon a very satisfactory basis. Post-mortem examinations could not help us much in the study of functional disturbances of the cerebral circulation, for it was generally impossible at autopsies to decide whether the brain had been anæmic or hyperæmic just before death. Moreover, cases of functional disturbance of the cerebral circulation, even when sufficiently severe to cause most alarming symptoms, rarely terminated fatally. We were obliged, therefore, to depend upon experiments and clinical observations for what we knew about variations in the intra-cranial blood supply. We found that anæmia of the brain caused coma and convulsions, and that heart failure or vaso-motor nerve disturbance might cause anæmia of the brain. Hence we saw all varieties of symptoms attending functional circulatory disturbances, varying in degree from the lightest shades of vertigo to the profoundest coma. The symptoms of cerebral hemorrhage, embolism, and thrombosis were mainly due to the disturbance of the cerebral circulation which they produced in hemorrhage, by the presence of the clot; in embolism and thrombosis, by occluding the vessels of supply. It was not strange, therefore, that very similar symptoms should be present when similar disturbances of circulation were produced by heart failure, or when the vaso-motor nerves caused the vessels of supply to contract. A striking difference was apparent, however, when we contrasted the persistence of symptoms dependent upon organic disease with the rapid disappearance of those produced by mere functional irregularities. Cases were occasionally met with where coma, convulsions, or hemiplegia, due to mere functional disturbance, for some hours so closely resembled the same conditions dependent on organic disease that the deception was almost beyond detection. In the early stages a mistake was almost unavoidable, and the recovery of the patient was the first thing generally which pointed the way to a correct diagnosis.

The subject was further discussed in connection with the histories of four cases, in all of which an erroneous diagnosis had been made at first, either by the author or by some physician called in at the time of the attack. In all these cases a distinct apoplectic attack occurred, and yet, in all, the rapid recovery from alarming symptoms almost absolutely precluded the possibility of organic disease.

OCULT CAUSES OF DISEASE.—A paper by Dr. W. L. SCHENCK, of Osage City, Kansas, was read by title and referred to the publication committee.

(To be concluded.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 1, 1884.

Dr. R. A. CLEEMANN, President, in the chair.

CYSTIC LEO-MYOMA OF THE UTERUS.—Dr. HENRY BEATES, Jr., read a report of a case in which the fluid contained the Drysdale corpuscle and other characteristics of typical ovarian cystoma. The early history of this case, owing to the inability

of the patient to state with precision a few minor details, was somewhat incomplete, yet sufficiently accurate to supply a clear, unequivocal clinical record and distinctly demonstrate that the Drysdale corpuscles, when found in considerable number in fluid derived from the abdominal cavity, were not pathognomonic of cystoma ovarii.

Mrs. L., aged fifty-one, housewife, a mother, noticed, four years prior to admission to the Philadelphia Lying-in Charity Hospital, a lump in the lower abdominal region. The menopause had not yet occurred. The tumor was round and painless, and occasioned no inconvenience. Its development was comparatively slow, and not until it had attained large dimensions did it occasion constitutional derangement. When admitted, the patient was markedly asthenic, and suffered from mechanical dyspnea, gastric irritability, subacute proctitis, and pyrexia, the temperature ranging from 99° to 100.5° F.

The facies ovariana and the peculiar atrophy of the soft tissues of the supra-thoracic region, so constant an attendant upon ovarian cystoma, were present in a conspicuous degree. The notes of measurement had, unfortunately, been lost, but an estimate of the size could be formed when it is remarked that the tumor completely occupied the abdominal cavity, everting the xiphoid cartilage and inferior ribs, bulging far over the lumbar regions, and extending over the pubes down and between the thighs. The circumference at its largest portion was about fifty-one inches. The superficial abdominal veins were conspicuous, and the cellular tissue from the mammary zone to the feet was very cedematous. Palpation and percussion revealed signs of an ovarian cyst. The fluctuation was more perceptible in the longitudinal than in the transverse diameter. In the subhepatic region a decided resistance to pressure was noticeable, dependent upon a thickening of the cyst-wall. This mass was attached to the liver at the outer two thirds of the inferior border. At the inner third there intervened a space which was tympanitic on percussion, the note being that of colic resonance. The urine afforded negative evidence. As the asthenia was so profound, it was deemed advisable to tap the cyst in order to obtain an opportunity of improving the general strength and rendering ovariectomy bearable. Dr. Albert H. Smith, who had charge of the case, tapped, employing the ordinary curved trocar and cannula used in tapping the urinary bladder *per rectum*, and withdrew twenty-seven pints of a dark, muddy-brown, grumous fluid of a neutral reaction, a sp. gr. of 1.018, and containing blood and paralbumin. Microscopically, Dr. Beates found red-blood corpuscles, leucocytes, endothelium in various degrees of retrograde metamorphosis—i. e., the corpuscles of Bennett, Nunn, and Gluge—the ovarian cell of Drysdale, cholesterolin, and amorphous detritus. The fluid did not coagulate spontaneously. These micro-chemical properties, coupled with the physical signs, determined a diagnosis of ovarian cyst. The grumous character of the fluid and the existence of the subhepatic mass pointed to a cyst in which carcinoma had become established, with either metastasis to the liver co-existent carcinoma hepatitis. The idea of ovariectomy was abandoned and anæsthesia was instituted, with the effect of improving the patient's general condition sufficiently to enable her to be removed to her home, where she remained under the care of Dr. L. Brewer Hall. In about five months the tumor had refilled, and during Dr. Beates's absence Professor James B. Walker, at Dr. Hall's request, tapped the second time. The fluid was clear, and presented the appearance of ovarian fluid. In the winter of 1882 Dr. Beates tapped a third time, employing an aspirator. The gentleman assisting him inadvertently applied the exit nozzle of the air-pump to the vacuum-jar, and, when the trocar was introduced, there occurred an inflation of the cyst. The air apparently inflated a series of variously sized cysts that were arranged circumferentially and emitted percussion notes of different pitch. From this circumstance, which occasioned no evil consequences, it was concluded that there existed a number of small cysts communicating with the principal one. As the evacuation of the fluid progressed, the umbilical region sunk in, disclosing a circumferential mass presenting the appearance of a wreath, as it were, underlying the abdominal parietes. This ridge could be firmly grasped and moved to a limited extent. This peculiarity determined him to examine the fluid carefully. He also had Dr. Formad examine it, and he pronounced it ovarian. The class

at the University of Pennsylvania was supplied, and the ovarian cell of Drysdale demonstrated. The cyst refilled more rapidly, and he tapped a fourth time, removing a large bucketful of clear fluid, containing the same corpuscles in greater number than the previous specimens; large flakes of coagulated lymph were also evacuated. The circumferential mass had undergone great development, as had also the subhepatic induration. The reaccumulation of fluid was more rapid and the deterioration of health steadily progressing. Death took place about six years after the first manifestations. During the last days of the patient's life Professor Walker, in the absence of Dr. Hall, was in attendance. His letter details the mode of death and the results of the autopsy:

"Mrs. L. died on the Sunday night after your departure. Her bowel trouble rapidly disappeared, but the symptoms of cerebral anemia deepened, with hallucinations and convulsions, until death. At the autopsy the tumor was found to have membranous walls over an area of nine square inches above the navel in the middle line; elsewhere the cyst-wall was thick, as per sample. In some localities, notably in the hypochondria, the wall was quite thick. Firm attachments existed over the anterior wall of the sac with the parietal peritoneum, and the intestines were carried far up under the liver and stomach and were attached to the tumor. The liver was also attached. The entire abdominal cavity was occupied with the tumor, and it dipped into and occupied the pelvis. No attachments existed at the sides nor behind. The uterus was forced downward. One ovary, the right, was normal and attached loosely to the pelvic brim. The other was presumably occupied by the tumor. The cavity of the tumor was occupied by a brownish gelatinous fluid resembling soft soap; it was transparent, but had a sediment consisting of detritus from the inner wall of the sac. There was but one cyst, and the entire interior was similar in its lining, being apparently undergoing erosion. The contents of the cyst measured over a 'Yankee bucketful.' As the tumor was too immense to even contemplate removal, and as the variably thick wall was everywhere similar, save in the pelvic portion, which was darkened from hypostatic congestion, I removed the uterus and the portion of the tumor immediately surrounding it, extending the section through the cyst-wall." [This specimen was presented to the society.]

Sections for microscopic study were prepared from different portions of the cyst-wall, and were all demonstrative of leiomyoma. Those from the subhepatic portion resembled spindle-celled sarcoma, but were clearly differentiated by the elongated nuclei and want of sarcomatous relationship of cells to capillaries. The identity of the clinical phenomena of this neoplasm with those of ovarian cyst was worthy of special attention. In the early stage a marked peculiarity consisted of the sub-hepatic enlargement and induration; a morbid resistance to pressure, noticed in the inferior lumbar regions after the first tapping, and attributed to the œdema, was now seen to have depended upon a thickening wall, which at that time was insufficiently developed, save in the hepatic region, to attract special attention. That all doubt regarding the nature of this neoplasm might be removed, attention was directed to the left ovary, which had undergone marked atrophy and was to be seen in the specimen. Some sections had been submitted to Dr. Formad, who pronounced them ovarian. The origin of the cyst from the fundus uteri was evident upon examination. With the facts before us, Dr. Beates thought it was conclusively proved that the ovarian corpuscle of Drysdale, while a valuable aid to diagnosis, certainly did not possess pathognomonic value.

Dr. DRYSDALE regretted that Dr. Beates had not sent him a specimen of the fluid removed from this tumor, especially as he had more than one opportunity of doing so. While having the highest regard for the opinion of the gentlemen who examined it, still, so many errors had been made in these investigations that it would have been a satisfaction to him to examine it himself. But, apart from this regret, he considered it by no means proved that the cyst in question was not ovarian. The portion

of tumor left attached to the uterine wall in the specimen resembled a closely adherent ovarian cyst, such as he had met with repeatedly. The little mass lying close to the uterus, described as an atrophied ovary, did not present any resemblance to an ovary, nor did it occupy the usual position of that body. In the description no reference had been made to the color of the tumor, which had an important diagnostic value, the uterine fibro-cyst being usually livid or purplish in color, while the ovarian had a white, pearly hue. It was especially in cases like that of fibro-cyst of the uterus where the importance of the ovarian cell in diagnosis was well marked. In his investigations of these tumors he had never met with the cell which he had described as ovarian. Mistakes were very easily made in the differential diagnosis of such tumors, and, in fact, in many cases the diagnosis could not be established except by the examination of the fluid or by opening the abdomen. For want of this examination of the fluid, he had seen Sir Spencer Wells make the abdominal section to remove a tumor which he had diagnosed as ovarian, but which proved to be uterine. Dr. Marion Sims had sent him on three different occasions, and without telling him that they were from the same patient, specimens of fluid, which he thought was ovarian, obtained from a cyst in the abdomen. Dr. Drysdale assured him that the fluid was not ovarian, but, after the examination of the last specimen, Dr. Sims, still doubting, determined to operate, and found a uterine fibro-cyst. The history and all the characteristics of the tumor described this evening were ovarian, and the specimen and autopsy were not sufficient to establish the diagnosis of uterine cyst.

Dr. B. F. BAER remarked that the specimen seemed to be a section of a fibroma arising from the uterus, but it was too small to be satisfactory or to prove its origin. His personal experience had taught him the diagnostic value of the Drysdale corpuscle. When Dr. Formad reported finding this cell in the fluid removed from an abdominal tumor, he felt strengthened in his diagnosis of ovarian cyst. He had not trusted to the cell alone, but had been greatly influenced by its presence or absence in making a diagnosis in doubtful cases. In every instance in which Dr. Formad had reported finding the ovarian cell, operation had proved the tumor to have been of ovarian origin. He would like to ask Dr. Drysdale if he still considered the cell pathognomonic.

Dr. DRYSDALE still believed in the pathognomonic value of the ovarian cell. In his investigations he had met with but one exception to the rule, and that was in renal cysts. To prove that the cell could be relied on to establish a diagnosis, he would give one or two instances where it was impossible to do this except by its aid. In a review, by Dr. Harris, of the "Transactions of the American Gynaecological Society," in the "American Journal of the Medical Sciences," would be found this statement: "On one occasion Professor D. Hayes Agnew gave Dr. Drysdale a fluid for examination, in which he found the characteristic cell. Upon stating to Dr. Agnew what he had found, he was told that the fluid had been taken from the abdominal cavity; upon which he immediately said that the fluid must have escaped from an ovarian cyst, for it was ovarian. In this he was correct, as the cyst had a small hole in it, as if made with a punch, and the fluid had escaped as claimed." In another case Dr. Drysdale received a letter from Professor Matthew D. Mann, of Buffalo, N. Y., with a specimen of fluid consisting of eight or ten drops, which the doctor stated was all that he could obtain by aspiration. The tumor had been diagnosed by other surgeons as a uterine fibroma, and consisted of a large solid mass which filled the pelvis and abdomen as high as the umbilicus. The history and symptoms all pointed to a uterine fibroid, and the patient was in such a precarious condition that an explora-

tory operation was considered unjustifiable. An examination of the fluid by Dr. Drysdale showed the presence of the ovarian cell. This determined Dr. Mann to operate. He found two ovarian tumors, which he removed successfully, and the patient recovered. "Without the microscope no certain diagnosis could have been made except by resorting to an exploratory incision." These cases, and he could give many others like them, were sufficient to show the diagnostic value of the cell.

Dr. BEATES remarked that it was a matter of extreme regret to him that Dr. Drysdale did not have an opportunity of examining the fluid; it was due to the fact that the neoplasm was regarded as ovarian, and the specimens of fluid were not preserved. At the autopsy the growth was presumed to have arisen from the left ovary, and none of the fluid was kept. Later study of the specimen disclosed the amygdaloid mass situated in an atrophied membranous structure, closely approximated to the uterus. The microscopic examination of this determined its ovarian character to the mind of Dr. Formad, which conclusion dissipated a doubt in Dr. Beates's mind and confirmed his belief of its being the left ovary. He thoroughly appreciated the strong probability of error in positively diagnosing by differentiation the Drysdale corpuscle from similar bodies, as the pyoid body of Lebert, but the facts that treatment with acetic acid only had the effect of rendering the whole corpuscle very slightly clearer and disclosed no nucleus, that ether added to the fluid, the mixture being thoroughly agitated for several minutes, had the effect of simply rendering the corpuscle paler, convinced him that the bodies were the corpuscles in question. There was, by very extended experience, developed a capacity to differentiate by a varying degree of opacity. Dr. Formad believed these corpuscles to be those of Drysdale. The striking phenomenon, if this were an ovarian cyst, was in the fact that primarily it was purely cystic, typically so, and that during the last year of its existence the cyst-wall throughout its posterior seven eighths assumed a myomatous development. If this did not occur, the myomatous wall must have originated at the fundus uteri and gradually permeated the cyst. Either of these processes was almost incredible and certainly exceptional. The true uterine origin must not be forgotten. That a proper conception of the tumor might be formed, it should be compared to a large pumpkin with a wall varying in thickness from one to three inches. For an area of about nine square inches at the umbilical region the ordinary cyst-like structure formed, as it were, a drumhead. This wall was not fibromatous, but purely myomatous. Dr. Goodell had seen this patient, and diagnosed the tumor as ovarian.

HYPERTROPHIED UTERINE MUCOUS MEMBRANE.—Dr. BAER exhibited a specimen, and related the case.

R. H., aged thirty, married twelve years, was sterile. Puberty occurred at the age of twelve. There was slight dysmenorrhœa from the first, and since her marriage the difficulty had been increasing, so that during the last few years the pain had been very severe. The menstrual flow, which had always been rather profuse, especially since her marriage, had for more than a year been irregular in time and quantity; sometimes it continued two weeks very freely, when she would be so prostrated as to be compelled to remain in bed to regain strength. She complained of a severe, sharp pain in the region of the left ovary, radiating to the groin and the anterior part of the thigh, and to the pericardial region and side of the head to the top of the head. She had great dragging in the pelvis and pain in the sacral region. During her periods the mammary glands would swell and become very tender and sore. Coition had been rendered almost intolerable on account of pain during the act, and because it increased the pain in the left ovarian region and induced a sensation of nausea and faintness. She had such dread of sexual congress that an interval of months would sometimes elapse between the acts. Her weight had decreased from 146 to 117 pounds, and her appetite and digestion were poor.

Examination showed the cervix uteri to be near the vaginal orifice, somewhat elongated and conical. The os was patulous, the body of the uterus very much hypertrophied and retroverted. The left broad ligament was contracted and the corresponding ovary prolapsed, larger than normal, and very tender to pressure. The sound indicated a uterine depth of three inches and a half, and the organ was large and soft. The uterus was mobile. Ether was administered, the cervix was dilated by means of Ellinger's dilator, and the endometrium was carefully curetted, removing a large amount of the most enormously hypertrophied mucous membrane. Nitric acid was applied. Under a regulated diet, with rest, complete relief followed, and freedom from hæmorrhage and pain.

Dr. W. H. PARISH would like to hear the result in Dr. Baer's case after the lapse of three or four years. Two or three years ago he had reported before this society a similar case, in which, after dilatation by sponge-tents, he had removed a large quantity of endometric growths, and applied nitric acid. The treatment was followed by an apparent cure which lasted for some months, after which the previous condition returned. The same treatment, followed by relief and subsequent relapse, had been repeated several times. Good microscopists had pronounced the growths benign. Dr. Goodell had, however, given it as his opinion that it would ultimately become malignant. Dr. Parish had been gradually coming to the same opinion.

Dr. BEATES had treated a woman aged thirty-three years, who suffered from antelexion of the uterus, menorrhagia, and granulations of the endometrium. The microscopic appearance was benign. After treatment by means of the curette and nitric acid, no hæmorrhage occurred for four months, the treatment was repeated, a laceration of the cervix was closed, and seven months later the patient became pregnant; abortion occurred at two and a half months, and the granulations and hæmorrhages had returned.

Dr. BAER remarked that these cases were very common, being seen every week at the clinic. They were usually benign, but sometimes became malignant from loss of blood and a run-down condition of the system. Adhesions or some other obstacle to the free return of the venous blood from the uterus might exist, or the ovaries might be diseased, and these causes would bring on the relapse, no matter how perfect the relief might be. In many cases the cause was a flexion, and the effect was sterility. It was an exaggeration of a purely physiological process. It might be benign in its incipency, but become malignant later on.

W. H. H. GITHENS, M.D., *Secretary.*

Miscellany.

PROPER MEDICAL EDUCATION.—The following is an abstract of a paper read before the Medical Society of the State of Pennsylvania, May 14, 1884, by Henry Leffmann, M.D., of Philadelphia: The present system of medical education is not the result of efforts to meet the needs of the community, but is largely an irregular development. The reforms which medical colleges have adopted have been mostly unwilling concessions to public sentiment. The sevenfold division of branches has nothing to recommend it but antiquity; it is not a convenient nor a scientific division of the subject. Under the arrangement some of the departments of the college course are overcrowded, others have not sufficient matter to occupy the time assigned. Departments like hygiene, mental and nervous diseases, and medical jurisprudence, have developed so of late years that they might properly be taught by separate chairs and not made merely subsidiary to other chairs, or limited to spring or fall lectureships. The extension and success of post-graduate schools

indicate the direction in which the improvement of the curriculum should be made.

Higher specialization is the necessity of the time. The success which has been attained by dentistry shows that other departments, such as otology, laryngology, etc., might with advantage be pursued independently. There would be no reasonable objection to establishing the degrees of doctor of otology, ophthalmology, and so on, commensurate with the degree of doctor of dental surgery.

A preliminary training for the student before entering on the study of medicine is so obviously necessary that it need not be argued.

The final work of medical reform will be accomplished when the college is made merely the instructors the license to practice being given by an official board of examiners after a written public examination.

COFFEE MANIPULATION.—If a large part of the coffee produced was left longer upon the tree it would reach the consuming markets of the world in a riper condition than at present. The result would be coffee with a better or more mellow flavor, larger bean, and of much more desirable color. The berries, however, are picked at or close to maturity; by artificial means the outer coverings, consisting of the skin of the berry, the pulp, mucilaginous surroundings, and the inner skin, are removed. The bean improves by age at the expense of weight, gaining in color and flavor, and therefore in commercial value. Popular prejudice accepts a dark brown or rich golden color as an evidence of age, and hence an index of drinking quality, and, as a result, such coffee commands a higher price.

Producers hurry their coffee to market. In many countries, owing to a lack of machinery, it reaches the shipping port poorly cleaned; in a raw or unripe condition; beans of irregular size and of varying flavor. From shipping ports it is hurried to the distributing ports of consuming countries, generally by steamer, instead of, as formerly, by sailing vessel. The result is that the coffee loses the benefits that resulted from a long sea voyage, viz.: improved color and flavor due to the fermentation or sweating process it undergoes while confined in the hold of a vessel subject to a high and moist temperature. A six months' voyage via Cape of Good Hope imparts to the large green Java bean a dark brown color, and gives to it the mellow flavor so popular with consumers.

Various artificial means are now employed to give to coffee color and flavor, some of which are legitimate and others fraudulent or illegitimate. In that standard authority, "Coffee from Plantation to Cup," attention is called to the report in 1879 of the chemist of the Agricultural Department, Washington, D. C., wherein he states: "The foolish demands of the people are the direct cause for the manipulation of coffee." He proved by chemical analysis that six samples of faced berries contained the following per cent. of foreign adulterants:

	Per cent.		Per cent.
No. 1.....	0.68	No. 4.....	0.64
No. 2.....	0.19	No. 5.....	0.63
No. 3.....	0.08	No. 6.....	0.58

The mixtures used are known as orange powder; black powder; olive green powder. They contain chromate of lead ("chrome yellow"); sulphate of barium ("heavy spar"); burnt bones or crude bone black.

Dr. Cyrus Edson, of the New York Board of Health, has been paying special attention to the fraudulent coloring of coffee, and not only corroborates the foregoing, but has discovered that mineral poisons are freely used by several of the companies operating in Brooklyn, N. Y., and which are to answer for their wrong practices to the Board of Health of that city. Arsenic, Venetian red, chromate of lead, ferrocyanide of potassium, and umber are used to color the beans. The bean, being porous, or spongy, absorbs the arsenic and lead so thoroughly that it is almost impossible to remove it by any roasting or chemical process. If these mineral poisons remained upon the outside of the bean it would require a white heat to destroy them; and every dealer knows that coffee is roasted in closed cylinders at a temperature which fails to volatilize any poisonous coating. It is incomprehensible how any firm of good standing can be a party to such frauds.

The polishing of coffee, by subjecting it to friction in either upright or horizontal cylinders, is legitimate. Neither can any reasonable ob-

jection be made to the use of soap-stone in polishing. The separation of small from large beans, or the improvement of the looks of the coffee by mechanical appliances, are proper, adding to its commercial value, but there is no defense that will excuse the use of mineral poisons.

Any artificial method, whether legitimate or illegitimate, can be used to deceive, and we regret that so many reputable firms are practicing fraud upon retailers by using existing processes of manipulation. Large bean coffee of Mexican, Central American, Venezuelan, or other growth is made to imitate Java so closely as to defy detection except by experts. That sort of swindling has become very common, and we caution the trade against "bargains" in old brown Government Java.

Some years ago a patent was taken out for the ripening of coffee by a natural or legitimate method. This subjects the coffee to the equivalent of a long sea-voyage through the tropics. The coffee is placed in compartments similar to the hold of a vessel, and subjected to a moist and rising temperature for about one week. The rise in temperature is gradual, and the success of manipulation depends upon the skill of the operator, whose experience enables him to determine from the condition of the green bean the degree of heat and moisture to which it can be subjected, and the time necessary to secure a certain result. The operation removes from the bean a large amount of caffeo-tannic acid, causes some varieties of the bean to expand and change color, and becomes mellow in flavor.

The process causes a permanent change, specimens four years old showing no loss of color. The flavor, as is natural, will continue to improve by age, notwithstanding the treatment to which it is subjected. The caffeo-tannic acid of coffee has the property of taking up oxygen and oxidizing rapidly, forming other acids. The color of the bean is supposed to depend more or less upon the changes in these acids. If live steam is allowed to act directly upon raw coffee it would partially cook it, the action being sudden and violent; but this method, once in vogue, is little practiced at present.

It is unimportant to the consumer whether the changes which improve coffee are wrought on sea or land, so long as they are obtained without the use of chemicals or by any methods likely to be injurious to health. The method above described is now extensively used to give to green Java a rich, brown color, and to green Rio and Santos that much desired and beautiful golden color. It is also possible to establish and maintain a uniform standard of color. This process has also afforded additional proof that soil, climate, and condition of bean at the time of harvesting affect the flavor. It serves to lessen the rank and bitter flavor of Brazil sorts and bring some varieties of Santos and fine Rios so that they approximate in mellowness an O. G. Java or fine Maracaibo.

In brief, fermentation under certain conditions improves some sorts of coffee. It undoubtedly improves by age, some claiming that it will gain in flavor for ten years, if kept in a dry, warm, well-ventilated warehouse at as near an even temperature as possible. It loses or absorbs moisture, according to existing climatic conditions.

Buyers should guard against fraud, and, when they are deceived, return the goods or claim an allowance for damages.

We will cheerfully examine and report upon any samples which our subscribers will send, provided they are sufficient in quantity (not less than one pound) and come properly labeled, accompanied by a description by letter.—*American Grocer and Dry Goods Chronicle.*

SARCO-PEPTONES.—This preparation of Dr. Rudisch, presented by the house of Parke, Davis & Co., is offered by them as a thoroughly successful peptonized beef extract. It is in the form of a translucent, firm jelly, of an amber-brown color, and the odor and flavor of a good extract of beef. Dr. Jacobi, of New York, has used it for a long time in preference to any other preparation of the kind, his reasons being "the absolute uniformity and equality of the specimens, and the fact that the patients, as a rule, have been willing to take it for a long period in succession." He gives it unmixed in teaspoonful or half-teaspoonful doses every half hour, hour, or two hours, or diluted with broth, or spread on stale bread or toast, or mixed with water for rectal injections. We have not as yet tried the preparation, but propose doing so upon the first occasion which offers.—*Virginia Med. Monthly.*

Original Communications.

THE CLINICAL SIGNIFICANCE OF FIBRINOUS EXUDATIONS UPON THE MUCOUS MEMBRANE OF THE UPPER AIR-PASSAGES.*

By FRANCKE H. BOSWORTH, M. D.,

PROFESSOR OF DISEASES OF THE THROAT IN BELLEVUE HOSPITAL MEDICAL COLLEGE; PRESIDENT OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

By clinical observation, inflammatory affections of the upper air-tract divide themselves, by sharp, well-defined lines, into catarrhal inflammations and those characterized by fibrinous exudations. In the former we have to do with a morbid process, usually of a mild type, of limited extent, and of short duration. In the very large majority of cases it is due to taking cold, which gives rise to a more localized perversion of the ordinary process of nutrition and growth, that exaggeration of the normal physiological processes which goes on in the part in a state of health, and which we call a catarrhal inflammation. The process is in no essential sense a grave one; it is attended with no dangerous tendencies except such as may be adventitious, and the constitutional disturbance, if there be any, is measured by the extent of the local morbid process. In other words, the fever, if it be present, is limited by the extent of inflammatory action, and is merely symptomatic of it. The disease itself is purely a local one.

On the other hand, inflammatory processes characterized by the exudation of a fibrinous material in or upon the surface of the mucous membrane indicates a disease totally distinct, and in every aspect differing from a catarrhal process. In the latter the phenomena differ in no essential manner from health except in the exaggerated activity. There is increased blood supply, there is increased cell proliferation, there is increased secretion. These processes all belong to the membrane in health, and hence inflammation here only consists in an intense activity of all the normal physiological processes. In the inflammatory processes, on the other hand, characterized by a fibrinous exudation, the essential features of the morbid process are different. It is generally stated that the two processes are much the same, with the exception that in the one case there is the additional element of a fibrinous exudation. From a clinical standpoint, this is scarcely true. Hyperæmia is common to each, but more marked in the catarrhal process. Hypersecretion is common to each, but much more active in the simpler disease. Cell proliferation is common to each, but, while in a catarrhal inflammation this is characterized by intense activity, in an exudative affection this phenomenon is not a prominent incident. But while in these three features the catarrhal disease is much more active, we have in the exudative process an element added which indicates the existence of, not a mere local process, but a constitutional affection, and one which may be attended with great danger to life.

By far the most common of all inflammatory affections occurring in the upper air tract, attended by a fibrinous exudation, is what is known as *acute follicular tonsillitis*. A child or an adult, for it is common to all ages, after a few hours or, perhaps, a day of general malaise, is seized with a chill followed by high fever. The chill is usually well marked, but may be only decided chilly sensations. Following the chill, well-marked febrile symptoms set in, characterized by hot skin, rapid pulse, thirst, pain in the bones, anorexia, and all the symptoms of active fever, the temperature often rising to 103° or 104°. Painful symptoms with reference to the fauces soon set in, with marked dysphagia. An examination of the throat reveals one or both tonsils swollen, hyperæmic, and dotted over with a number of pearly white patches. The essential morbid condition here consists in an exudation, into the crypts of the follicles which go to make up the tonsils, of a fibrinous material which distends their cavities and shows itself at their orifices. An examination of the material poured out shows it to be in the main composed of delicate fibrinous fibrillæ, inclosing in their meshes a number of lymphoid corpuscles. As the disease progresses, the fever diminishes in activity, the morbid process in the tonsils gradually disappears, and, at the end of from five to eight days, it terminates in resolution. The prominent features of the attack are the marked febrile motion which characterizes the onset of the disease and the marked constitutional disturbance which attends its course, the prostration often assuming a typhoid aspect.

We have here, then, a limited and comparatively trivial morbid process in the fauces attended with such marked systemic disturbance that I think it must be conceded that we have to deal with something more than the results of an ordinary cold. The whole train of symptoms is such that it seems to me that we may rather regard it as akin to the essential fevers, the fever and general systemic disturbance being such that we can not regard them as symptomatic of the limited inflammatory process in the tonsils. A clearer and more intelligent appreciation of the affection can be attained, then, by regarding it as not differing in any great degree from the exanthemata, but by considering it one of the continued fevers with a local eruption on the tonsils, the characteristic appearances of the eruption being as distinctive and pathognomonic as the umbilicated pustule is of variola.

If this conclusion be a justifiable one, we must seek further for its cause than in taking cold. I believe it to be a germ disease. A floating germ, whose origin is in many cases to be found in defective drain-pipes, bad sewage, or some of the many problematic sources of our zymotic diseases, lodges upon the tonsils, and, finding a favorable nidus for its development, makes its way into the blood, causing the general systemic outbreak which characterizes the affection, while at the same time a local morbid process is set up at the point of inoculation. It may be claimed that many of these cases seem to develop from a recognized exposure to cold, just as many cases of croupous laryngitis are preceded by a catarrhal laryngitis. The true explanation of this is that a catarrhal inflammation in the fauces

* Read before the American Laryngological Association, May 12, 1884.

favors the lodgment of the germ; in other words, predisposes to the attack.

Another group of cases which is characterized by a fibrinous exudation is the so-called *acute follicular pharyngitis*. In these cases the train of symptoms is identical with those already described. The only difference is that the follicles of the lower pharynx are involved in place of those of the tonsil. In these cases, the same conclusion may be drawn as from the tonsillar disease, the only difference being in the locality of the eruption.

Another group of cases is met with in which the same morbid process occurs in the follicles of the pharyngeal tonsil, constituting an acute follicular tonsillitis, if we may so call it, of Luschka's tonsil. Anatomically, physiologically, and pathologically, I know no difference between the faucial and pharyngeal tonsil. Their general construction is identical; the function of both is to supply mucus as a lubricant to the lower pharynx, which is but sparsely supplied with mucous glands, and their diseases are also the same. Quinsy, or so-called acute tonsillitis, is the only exception, but this is not a disease of the tonsil, but rather of the areolar tissue of the soft palate.

Acute follicular tonsillitis of Luschka's tonsil has never, as far as I know, been described, and yet it is of very common occurrence. It differs in no essential degree from the disease first alluded to, its onset and progress being marked by the same active systemic disturbance, and its clinical significance being also the same as that of the former disease.

Still another class of cases, which forms a group by itself, is croupous tonsillitis. In these cases a child or an adult—far more frequently the former—is seized with a chill followed by general febrile movement and pain referable to the fauces. The febrile movement is, as a rule, of a notably active character, the pulse being rapid, the skin hot and dry, thirst and anorexia well marked, and the temperature reaching 102° to 104° . An examination shows one or both tonsils swollen, hyperemic, and the seat of a small patch of a fibrinous exudation of a grayish white or bluish white color. A close and careful examination of the patch shows it to be a clean, clear, white membrane, with no noticeable secretion. Now, if we take a slender probe, and very gently lift the edge of the membrane, and we find that it is easily removed, and, moreover, that after removal the mucous membrane beneath presents a fairly normal appearance—in other words, if we find that the exudation can be peeled off without rupturing any blood-vessels or causing hemorrhage—I think that there can be no question that we have by this procedure obtained most valuable information by which we can form a fairly correct opinion as to the character of the disease with which we have to deal—its courses, dangers, and tendencies. In adults and patients who have passed beyond the age of childhood we may say with certainty that we have to deal with a self-limited disease, and one which will run its course in from five to eight days, and that it involves no dangerous tendencies.

In young children, on the contrary, the development of a fibrinous exudation in the fauces means the possibility of the occurrence of one of the gravest diseases with which we have to deal—croupous laryngitis. A child is attacked

primarily with a train of general symptoms, as noted before—a chill, and general febrile motion of an unquestionably sthenic type, followed by a fibrinous deposit on one or both tonsils. The case progresses without any untoward symptoms for two or three days, when laryngeal symptoms develop, and a fibrinous exudation of the same character develops in the larynx. In these cases, as in the acute follicular diseases first described, I think we have to do with a specific germ which lodges upon the mucous membrane of the fauces, where it reproduces itself, setting up local inflammatory action, while at the same time it makes its way into the circulation, thus producing the systemic condition which characterizes these affections—viz., sthenic fever. In childhood the germ finds a favorable nidus for its development upon the tonsils, and also upon the mucous membrane of the larynx. In many cases the germ which excites the laryngeal complication probably has its origin in the reproduction which occurs at the point of primary inoculation—viz., the tonsillar false membrane. With increasing years, the changes which take place in the laryngeal membrane render it a less favorable nidus for the development of the germ, and so in adult life we have the croupous deposits upon the fauces, without involving any additional danger of a laryngeal complication. In itself, a croupous membrane is not dangerous. Occurring on the tonsil of an adult, it involves a week of moderate illness. In children, and occurring in the larynx, it constitutes one of the gravest of diseases, but mainly in the mechanical obstruction to respiration. I should say here that the term croupous membrane is used, as originally laid down by Virchow, to describe a fibrinous exudation deposited on the surface of a mucous membrane, in contradistinction from a diphtheritic membrane, which infiltrates the mucous membrane to a greater or less extent, and can not be separated from it.

In another group of cases we have the well-marked preliminary chill followed by general febrile disturbance, with faucial exudation; but the characteristics of the local morbid process, as well as the systemic symptoms, are entirely different. The febrile motion is of a different type, being of a notably asthenic character; the pulse is rapid but weak; the temperature is lower, being 101° to 102° . The skin does not usually present the hot, flushed aspect of the sthenic fever, and there is every appearance of marked depression. If we examine the fauces on the first day, we find deposited upon one or both tonsils a thick, velvety, distinctly yellow false membrane, markedly raised above the surface of a moist-looking membrane, and a notable amount of secretion about its border. If we take a probe and try to raise its edge, we find it impossible to do so without lacerating the tissues. On the second day we find that a decided change has taken place in the membrane. The local necrosis has taken place, which is the necessary result of the fibrinous exudation having permeated the mucous membrane; and the whole appearance is of a slough, a blackish-yellow mass, with an offensive discharge oozing from its borders and giving forth a fœtid odor. Here also the local morbid process may be confined to the fauces, or in a few days laryngeal symptoms may develop, and a false membrane

form in the larynx. Unlike the croupous form of fibrinous deposits, the tendency to the occurrence of laryngeal complication is not confined to children.

Diphtheria, in all its aspects, is a septic and asthenic disease, and presents a totally distinct clinical picture from croup; and yet, it seems to me, there can be but little doubt but they are both germ diseases. In diphtheria, the germ lodges upon the mucous membrane of the fauces, and, exciting a local inflammatory process at its point of entrance, makes its way into the blood, producing there the train of symptoms which constitute the essential constitutional features of the disease—viz., primary septic blood-poisoning. At the point of inoculation the germ reproduces itself, and constitutes the source of a secondary blood-poisoning by absorption from the false membrane in the fauces.

In addition to the sharply defined groups of cases which I have briefly described, we all of us occasionally meet with cases; which it is impossible to assign to the croupous or diphtheritic group. Fortunately, these irregular and indefinite cases are rare. In the very large majority of cases, however, I think that we may assign a given case to one of the groups described with tolerable certainty as to the correctness of our observation.

It is not the province of this paper to discuss the question of the identity of croup and diphtheria. In 1857 Virchow enunciated the doctrine that, from a pathological point of view, there were two distinct pathological processes to be found in connection with false membranes in the air-tract. In the one case a fibrinous exudation was deposited on the surface of the mucous membrane, and that this constituted a croupous inflammation; on the other hand, a fibrinous exudation which permeated the mucous membrane constituted a diphtheritic inflammation. As is well known, Virchow subsequently abandoned this distinction, on the ground that the two pathological processes in many cases merged so gradually one into the other that it was impossible to assign them to either class with certainty. No one, of course, doubts the correctness of Virchow's later views, and yet, from a clinical standpoint, I regard the distinction as one of the very greatest importance. And while, as already stated, we undoubtedly meet with cases which it is difficult to assign with certainty to either class, these cases are rare, and, in the very large majority of cases, the differential diagnosis is not difficult if we carefully examine the local process.

The points, then, on which I would place especial emphasis are as follows:

1. A fibrinous exudation which occurs in the crypts of the follicles of the faucal or pharyngeal tonsil, or of the mucous membrane of the lower pharynx, has no tendency to extend, and characterizes a disease which is self-limited and which involves no dangerous tendencies.

2. A fibrinous exudation which occurs upon the surface of the tonsil or of the mucous membrane of the fauces, constituting a croupous membrane, so called, presents gross appearances by which it can be unmistakably recognized. It is easily detected, and can be peeled off from the parts beneath without lacerating the tissues. It is a white, clean,

healthy-looking membrane, and presents every aspect of a living tissue.

3. A croupous membrane in the fauces of an adult marks the existence of a disease which, while being undoubtedly a blood-poison, is still a self-limited affection, and one which involves no danger to life.

4. A croupous membrane forming in the fauces of a child marks the occurrence of the same disease as a croupous membrane in an adult; but in the child there is the additional danger of a new center of development occurring in the larynx, where it may involve the greatest danger to life, but mainly as a mechanical obstruction to breathing.

5. A diphtheritic membrane developing in the fauces marks the occurrence of a disease which is dangerous to life, not only from primary and secondary blood-poisoning, but also from the tendency to the development of the same morbid process in the larynx.

DISCUSSION.

Dr. BEVERLEY ROBINSON, of New York.—I would take exception, with due respect to the author of the paper, to certain statements which he has made. In the first place, with regard to the question of follicular tonsillitis, so-called, appearing as an essential fever, I think, from a clinical point of view, that this is a mistake, because, while it is certainly true that in a certain number of instances, particularly in children, the fever does last for a number of days, and is evidently connected with the appearance of cheesy masses over the follicles of the tonsils, yet in quite as many instances the fever is of very short duration, and, although it may be ushered in with phenomena of some gravity, in such cases I have seen it subside within from twenty-four to forty-eight hours. Moreover, as far as I am aware, and I say this with a little hesitancy, the pathological appearances of the exudation from the interior of the follicles does not resemble, microscopically, the condition to which the President alluded in speaking of the true croupous membrane. They are simply cheesy masses which are pressed out from the interior of the crypts, and do not in any sense partake of the nature of an exudation which we consider ordinarily as being fibrinous.

With regard to the question of croupous tonsillitis, I will also remark that, while there are perhaps many cases in which the membrane itself does characterize the type of a disease which is only of certain local gravity, particularly when it attacks the larynx, but which is not a constitutional affection, yet I have seen cases in which the mucous membrane did not seem to be incorporated with the false membrane itself, where the cases seemed to be of mild type, yet after a few days they became very serious; the membrane, which at first was white and easily detached, afterward became dark, and so attached to the underlying tissues that I could not say the case was not one of diphtheria. I think there is a certain number of cases ordinarily called croupous tonsillitis which in all probability begin, as stated by several authors, among them Dr. Da Costa, in a herpetic eruption of the tonsils. I think that such a disease unquestionably exists. I have seen one or two cases almost from their commencement, and think the disease should be considered a follicular tonsillitis, or a herpetic tonsillitis rather, a form of tonsillitis alluded to in the first part of the President's paper. I might here say, as to the origin of these affections in the local absorption of certain germs, that while the President's views, shared by many others, may have a theoretical basis, they are in my mind far from proven. We unquestionably do find in these affections of the air-passages germs—call them bacteria

or what you will—but the microscope will fail to show the slightest difference in their appearance, whether they be present in one affection or another, and we are unable to say whether the germs were active in carrying the poison or whether they were entirely innocuous.

It is very wrong, in my opinion, to look upon diphtheria as always being one and the same disease in the sense of its absolute gravity. There are different gradations in the gravity of diphtheria, as in all infectious disorders. As we meet with cases of scarlet fever and measles of mild type, so also of diphtheria, and the prognosis must vary according to the circumstances of the case, and yet the disease is essentially the same in each case.

Dr. WILLIAM C. JARVIS, of New York.—I can, for the most part, substantiate the views of Dr. Bosworth as regards the gross pathology of the exudation met with in the upper air-passages. Several years ago my attention was first called to inflammation of the pharyngeal tonsil by the occurrence of the affection in my own person. My inference as to the implication of the third tonsil was afterward verified by repeated observations upon numerous subjects of this disease. A feature of acute follicular pharyngitis which does not seem to have received any attention is one in which the secretion is retained, eventually escaping upon rupture of the membrane, and covering the pharynx with a white membrane. Such a change does not occur when the inflamed follicles remain patent.

The PRESIDENT.—I must take exception to Dr. Robinson's belief that follicular tonsillitis, in any sense of the word, is characterized by cheesy deposits in the crypts of the tonsils. The exudation, in its gross appearances and microscopical characters, while not presenting exactly the same conditions which we see in the croupous membrane on the surface, resembles it sufficiently to warrant us in the conclusion that the two conditions are very nearly allied, if not identical, the differences being only such as we would expect to find—the membrane in the one case being deposited upon the surface, and, in the other, being confined to the small crypts going to make up the tonsils. Again, in some cases the membrane overflows the crypts, so to speak, and spreads out on the surface, constituting a membrane in the true sense of the word.

The point which I wish distinctly to emphasize is, that we can, by examination, throw a great deal of light on the clinical tendencies of inflammatory diseases of the fauces. Heretofore, as you know, physicians have commonly limited themselves to making examination, and drawing their conclusions, simply from the use of the tongue depressor. It seems to me, from a clinical point of view, the careful examination of the gross appearances of the exudation in the fauces has not received the attention which it should. If, for instance, in acute follicular tonsillitis we can recognize by the gross appearances a membrane, which will enable us to say in the case of the adult exactly what course the disease is going to follow, or, in the case of the child, that there is danger of a new center of development—the larynx—and of consequent obstruction to the air-passages, we shall take an important step in advance.

As regards the germ source of this disease, it seems to me that, in the absence of any more definite theory, this presents the best explanation of the etiology. It can not be a disease which results from taking cold; it is something more than that. It presents all the general systemic disturbances which characterize the essential fevers which are self-limited in nature.

Dr. F. I. KNIGHT, of Boston.—I would call attention to one point which I think escapes the attention of physicians very generally in these acute affections of the upper air-passages, and I do so because I think it practically important. It relates to the increased susceptibility to diphtheritic infection during the existence of any simple acute inflammation of the air-passages, as

follicular pharyngitis or simple pharyngitis. This fact induces me, and I think it should induce others, to give a guarded prognosis in even simple acute affections.

Dr. S. W. LANGMAID thought there might be the symptoms of only a simple pharyngitis in the beginning, while the case, in fact, began as one of diphtheria, and left no doubt of its nature later.

The PRESIDENT explained that the point made in his paper was that a membrane in a state of acute inflammation afforded a better nidus for the germ which developed the diphtheritic or croupous process than the healthy membrane did.

FÖRSTER'S OPERATION FOR THE RAPID ARTIFICIAL RIPENING OF CATARACT,

WITH AN ANALYSIS OF THIRTY CASES.*

By CHARLES STEDMAN BULL, M.D.,
NEW YORK.

In order to hasten the growth and maturity of a slowly ripening cataract, many methods have been resorted to, some of which are of considerable antiquity. Some such method is especially desirable in cataracts, which, after a certain indefinite period of steady growth, come to an apparent stand-still. It is well known that, a long while ago, it was proposed to needle the anterior capsule through the cornea; but this method, though fairly successful in very young patients, is unsatisfactory and at times dangerous when applied to mature adults. Snellen's observation, that an iridectomy frequently increases the opacity already existing in a lens, has also been familiar to ophthalmic surgeons, and the operation has therefore been frequently performed to that end. This effect of an iridectomy in sometimes hastening the growth of a cataract is thus explained by Förster: "By the escape of the aqueous humor the lens advances, and in so doing changes its form, while the shifting of its elements within the closed capsule produced by this change of form increases the disintegration of the already loosened fibers." A modification of this operation was proposed by Professor Förster at the Heidelberg Ophthalmological Congress in 1881, and, in the discussion that followed, it was found that his views as to its advantage were indorsed by several members, among them Samelsohn, who had done a similar operation for a number of years. As is well known, the operation, as recommended by Förster, consists in making a broad iridectomy, usually upward, and, after all bleeding has ceased, making a stroking or rubbing massage-pressure upon the cornea opposite the coloboma with the elbow of a strabismus-hook or some similar smooth instrument. The effect which can be produced through the cornea upon the lens in this way is very considerable. A partially opaque lens has been observed, after this operation, to increase very rapidly in opacity, so that, within a period varying from a few hours to a few days or weeks, the entire lens becomes opaque, and is then fit for extraction. Förster recognizes the fact that this method of artificial ripening is not adapted to all cases of unripe cataract, and that a hardened opaque nucleus is absolutely essential. The

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writer has found it especially applicable to the very slowly ripening cataracts of middle life and the immature senile cataracts with yellow nucleus and cloudy cortex. The operation will prove a failure unless a hardened opaque nucleus is already present. It should not be forgotten that the cortex of a lens thus rendered opaque by artificial means is soft and not hard, like that of a senile lens, which has become mature by natural processes. Another point to be remembered in the performance of this operation is the proper gauging of the amount of pressure to be exerted upon the cornea, and this, probably, can only be learned by experience. Too strong a pressure would certainly tend to rupture the zonula, and cause a dislocation of the lens. Another danger which the writer has seen result from this massage manœuvre is a striated or radiating opacity of the cornea, which seems to be confined to the anterior layers, frequently remains for a long period, and fades out but slowly. This is no doubt due to some molecular change produced by the massage. If the cornea of a patient be closely watched while the rubbing movement is being carried out, it will be seen that the cut edges of the iris-coboma recede from each other, so that the space grows wider, and also that the margin of the pupil opposite the coboma recedes toward the periphery of the iris. Förster recommends that the rubbing or stroking manœuvre should be from the center of the cornea toward the periphery. The writer has found that a rotatory rubbing or massage answers better, and is, perhaps, more easily and quickly done. One not infrequent result of this operation is a mild form of iritis, which may lead to the formation of posterior synechie, though usually this may be prevented. Förster has never seen iritis follow, although he reports one hundred and fifty cases in which the operation was done; but the writer has seen it a number of times, though slight, and always amenable to treatment. Samelsohn limits the applicability of the operation to those cases in which there was a relatively small and soft nucleus, occurring in patients not over fifty years of age, and he found that the opacity extended much more rapidly if the anterior chamber was absent for several days by reason of the external wound remaining open. This observation the writer can also confirm from a careful examination of a number of cases. There is no doubt that, if care be taken in choosing the cases for this manœuvre and in the amount of pressure exerted, we have a valuable means at our disposal for cutting short the groping period of blindness of a large number of cataractous patients, and of hastening the period when an extraction can be made with good prospects of useful vision. The writer considers the danger which may arise from dislocation of the lens to be very slight. He recognizes a complication in the undoubted cases of iritis which occur, but he has never seen a severe case following the operation, nor one which could not be controlled by the ordinary means. When adhesions occur between the iris and the capsule of the lens, they may be broken by atropine, or by the alternate use of atropine and eserine, or by the forceps or blunt hook, at the subsequent operation for the removal of the cataract. In scarcely any case does the rubbing or massage manœuvre complicate or retard the ordinarily rapid

healing of the iris and wound after a simple iridectomy. The pain is very slight, and the operation can almost always be done without an anæsthetic.

The writer's experience in this operation is limited to thirty cases, extending over a period of about eighteen months. All of these cases belonged either to the class of slowly ripening or stationary nuclear cataracts of middle life, or to the class of immature senile cataracts with hard, yellow nucleus and partially cloudy cortex. In five of these cases the operation was followed by a slight plastic iritis, which readily yielded to ordinary treatment. In no case of the thirty was the zonula ruptured or the lens dislocated. In no case was there a loss of the eye following the later operation for the extraction of cataract. In only three cases was the resulting vision less than $\frac{20}{100}$. In ten cases, or $33\frac{1}{3}$ per cent., the vision after extraction was $\frac{20}{100}$. In the remaining seventeen cases the vision ranged between $\frac{20}{100}$ and $\frac{20}{100}$. In no case was the preliminary operation for ripening the cataract performed, except on account of the extreme urgency demanded for the restoration of useful vision within as short a time as possible. The average duration of hospital or house confinement after the first operation was six days. The period of apparent complete ripening of the cataract after the preliminary operation varied between six days and five weeks. In no case was the extraction of the cataract attempted until four weeks had elapsed after the first operation.

THE FUNDAMENTAL PRINCIPLES OF MECHANICO-THERAPY IN HIP DISEASE.*

By MILTON JOSIAH ROBERTS, M.D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND; PROFESSOR OF ORTHOPÆDIC SURGERY IN THE UNIVERSITY OF MONTREAL, ETC.

(Continued from page 491.)

PHYSICO-PHYSIOLOGICAL THERAPEUTIC DATA.

It will have been observed ere this that the path along which research in mechanico-therapy lies does not come to an end with the observation and careful consideration of clinical phenomena. Nor does it terminate with a knowledge of the site, extent, and nature of the morbid processes. It leads us beyond, to the study of the conditions of life in health, with special reference to those conditions of life in disease which we have observed at the bedside and verified at the post-mortem table. Standing, then, on the firm footing of a thorough familiarity with the clinical features of hip disease, and being assured of the favorable condition of the tissues of the disabled member for the practical execution of the therapeutic ideas which our clinical studies have inspired, let us seek to investigate those physiological questions which have a direct bearing on the ground gone over.

The one fact which our clinical observations have all the way along made paramount in our minds is that the hip-diseased patient requires artificial protection from disastrous traumatism; and, furthermore, that efforts to avert such

traumatisms must have special reference to protecting the area of tissue involved by the disease. That it shall be possible for us to proceed intelligently along this path, we must first know the source of such traumatisms. If the diseased area were located upon the external surface of the body, a very evident source would be direct contact with irritating substances, or blows on the affected area. Though it is not difficult to see how a direct injury to such an exposed focus of disease might result from voluntary muscular efforts, it is equally clear that the traumatisms to which it would be exposed must originate, for the most part, externally to the body. But the diseased area is not so situated. It is buried deeply beneath the soft parts in the head of the thigh-bone, away from the kind of traumatisms which superficial ulcerations of the soft parts fall heir to. Whence, then, come the traumatisms which it is the aim of treatment to nullify?

I think it will be universally granted that clinical studies have established the fact that it is during the act of walking that the hip-diseased patient receives the traumatisms which for the most part prove so disastrous to him. Those due to terrestrial and other forms of transportation, though important to avoid, have a minor significance in this connection, for whatever means will successfully avert the former, experience has taught will nullify the evil influences of the latter. It is, then, to the traumatisms of locomotion, or those resulting from the development of internal forces by an act of volition, that we must direct our attention. Our primary object will be to get some idea of the physical manifestations of these traumatic forces, together with a knowledge of the physical laws which preside over their destinies.

Physiological Dynamics. The Laws of Motion.—Turning our attention to the human body as a whole, recalling our individual observations and experiences, and applying the universally accepted laws of physics regarding the states of rest and motion, the following facts become manifest:

The first of these is, that the body, being at rest, can not be set in motion or transported from one place to another without the application of *force*; likewise, the body being in a state of independent or artificial motion, either in respect to its individual parts or in passing from place to place, it can not be brought to rest without again applying force.

Now, an established law of physics declares that *the application of this force can only take place through the mediation of some external body*. Internal forces can change the relative position of the particles of the body, but they are powerless to independently modify the position of the body as a whole. A man can not walk himself across the street, but is obliged to use the pavement, ground, or some other object external to himself.

Though it is not possible for the position of the body as a whole to be changed without the agency of some external force, it is possible, upon the application of internal force, to throw one part of the body in one direction and another in the opposite direction. At first thought it may not appear perfectly clear how this is possible, but a little reflection upon what takes place during the act of walking will suffice to establish the truth of the statement. In the

act of walking, each leg is successively placed before its fellow, and the body is carried forward. It is generally stated by writers on bipedal locomotion that each step has two phases—one of *impact*, and one of *support*. To these it is necessary to add a third phase, viz., *the application of internal force in a backward direction*.^{*} As the foot meets with resistance upon the ground, and the body has at this instant a forward inclination, the application of internal force in a backward direction simultaneously results in a throwing of the body forward, or in the opposite direction from that in which the force is applied, and the truth of our statement becomes manifest. That the limbs are thus thrown out in opposite directions implies that they move with a given *intensity*. Now, upon the intensity of this action or movement and the bulk of the parts depends the *quantity of motion*, or *momentum*, as it is variously called. Again, applying one of the accepted laws of physics, we find that, whenever motion is developed from the application of internal force, the momentum of the parts moving in opposite directions is the same; or, to put it in more familiar terms, action and reaction are equal and opposite.

The Conservation of Force (Energy).†—When we observe a man walking along the street, the movements continually developed for this purpose are arrested with each successive impact of the foot against the earth, and the force which produces them is apparently annihilated. But let us see if this is really the case. Is it any more feasible to create and annihilate force at pleasure than it is to create and annihilate matter? Nothing can be more certain than that visible motion has been arrested with each successive impact of the foot against the earth, and that a reapplication of internal force was necessary to produce successive movements. If, however, the subject of our observation

^{*} This application of force is at first voluntary, but, once inaugurated, becomes automatic.

† In the present discussion, for reasons which will become evident as I proceed, I shall ignore altogether the one fact which is almost exclusively dwelt upon by writers on physics when it is sought to show that the energy of moving bodies is not destroyed by impact which arrests their motion. The fact referred to is the conversion of visible motion into heat in consequence of collision. Since Grove's first essay on "The Correlation of Physical Forces," the tracing of the sequences of impact has been confined to variously illustrating this fact, to which he was among the first to call attention, while the mechanical effects represented by the molecular vibrations in the colliding bodies have been almost wholly overlooked. In physiological physics a knowledge of these effects is of much greater practical importance in giving a clear insight into the subject—at least in its bearings on mechanical surgery—than are the less apparent thermic changes.

In studying the nature, cause, and effects of jars with reference to the human body, one is naturally led to expect material aid from a study of the laws of sound, for it is common knowledge that it is the vibrations of strings, membranes, and strips of metal and glass which result in producing musical notes or tones. With these effects of vibratory impulses, however, we have nothing to do. Those that concern us do not cause the vibrating bodies to communicate a part of their motion to the surrounding air in such a way as to give rise to audible undulations of it, producing sound. Curiously enough, almost the only analogous effects of vibrations to those that interest us which have been subjected to scientific observation and experiment are of seismic origin. We have, then, come upon a line of dynamic research which promises large returns to scientific medicine.

walks heavily across the floor of the room in which we are sitting, a vibratory impulse is communicated to us, showing that, though visible motion was arrested by the impact of the feet against the floor, the force represented by the movements of the limbs was not annihilated, but underwent a transformation, after which it made itself manifest by a series of vibratory impulses or jars, imparted to objects external to the individual.

Again, suppose, instead of observing some one else, we direct attention to ourselves during the act of walking upon a level piece of earth, it being understood that our feet are clad in ordinary leathern shoes. By so doing we shall be able to appreciate a slight jar communicated to our body at every step. This jarring is so slight as to be unnoticed in health, unless particular attention be paid to it. By flexing the joints of the lower extremities to a greater degree than in ordinary locomotion, the jarring will be rendered almost imperceptible, even though particular attention be paid to detecting it. If, instead of walking on the ground, we walk in the ordinary way upon a stone pavement, the jarring will be much more apparent than in walking on the earth. Still more perceptible will it be if we do not flex our knee and ankle joints, so that we walk "stiff-legged," as it is termed. And, instead of walking on the stone pavement, should we increase our pace and run, we shall find the amount of jarring or shock to the body has been materially augmented. From these and the foregoing observations we are enabled to see that—

*The visible rectilinear velocity of the limbs during locomotion is converted by impact into molecular vibrations (known in common parlance as jars), which are imparted by the individual to the surface walked upon, and reciprocally imparted to and conducted back along the bony framework of the body with each successive step.**

These commonly observed, reciprocal, kinetic sequences of the successive impacts of the feet against the earth serve to illustrate, in a very meager way to be sure, the now universally accepted hypothesis, among scientists, that the various manifestations of energy are correlated, and that force is indestructible. Hence we are justified in the assertion that, though there has been a transformation of force, the resulting mechanical effects of impact, summed up, point to the verifiable existence of an equivalency of energy.

Vibratory Impulses, or Jars, when severe or too long continued, prove Disastrous to Healthy Tissues.—But let us regard still more fully the traumatisms resulting from voluntary muscular efforts. If the subject of our observation, instead of walking along the stone pavement, executes a series of jumps on two feet, he will find the jarring communicated to the body will be decidedly unpleasant, and, if continued long enough, will result in damage to healthy tissues. Or, again, should he engage in a severe contest of locomotor endurance, prolonged for five or six days, without sufficient sleep to permit of physiological repair, an acute synovitis of one or more of the joints of the lower extremi-

ties would probably result. Likewise, if he jumps from a great height to the ground, the resulting shock may even cause a fracture of some of his bones. From these and other observations which will readily present themselves to the mind, it follows that healthy tissues, though plainly in a less degree than diseased tissues, require protection from the vibratory traumatisms resulting from voluntary muscular action.

Again pausing to take our bearings and to see whither the path leads along which we have ventured, the probability becomes emphatically manifest that, by studying the means by which protection of healthy tissues from such traumatisms is normally accomplished, we may get some useful hints in regard to artificially furnishing protection to diseased tissues or joints, that being the goal for which all are striving. But we can not enter at once upon this inquiry. We must first pass over the ground which lies between us and it.

The Conduction of Jars through the Human Body.—For jars or vibratory impulses to damage healthy or diseased tissues, remote from the points of primary impact or collision with external bodies, implies that they shall be *conducted* through the body. By studying the conditions upon which the conduction of jars through the body depends, we again have promise of tangible data for therapeutic purposes.

To make the problem as simple as possible, let us study the conduction of jars through the body in repose. We have already incidentally regarded this point, when observing what took place when the body was in motion. First, let us inspect the healthy individual in the erect attitude, bearing equal weight on both feet. As he poses thus, we find the joint angles obliterated, and there is presented what is practically an unbroken column from the vertex to the soles of the feet. The long bones are placed end to end, so as to form nearly straight lines, and the curves of the spinal column are reduced to the minimum.

Under these circumstances the proportion of the weight of the body borne by the distal articular surface or surfaces of any particular joint varies inversely as the position of that joint in the series, proceeding from the soles of the feet toward the head.

From a study of intra-articular anatomy we learn it is in the erect position also that the greatest possible expanses of distal and proximal articular areas in the different joints of the body which can be utilized at any one time for sustaining the weight of the individual are firmly coaptated. In other words, the areas of contact between the ends of the long bones and those between the segments of the spinal column reach their maximum extent when the individual assumes the erect posture.

There is a twofold significance to this fact which only requires to be pointed out that you should appreciate it. In the first place, there results an equitable distribution of the weight of the head and thorax between the vertebral bodies and their respective articular processes, while in each of the joints of the lower extremities the full quota of the superimposed weight of the body is fairly distributed over the maximum expanse of epiphyseal impingement. Sec-

* *Jars.*—The term jar is used to express not only a particular kind of sensation, which is appreciated more particularly by the sense of touch, but also the state or condition of matter which produces this sensation.

only, as a result of the coaptation of the largest expanse of articular areas and the equitable disposition of the superimposed weight, we have the most *intimate and direct* contact of individual bones attainable in the human subject.

Opposed to the erect position, we have that in which the entire body is thrown into exaggerated curves and angles. The maintenance of such an attitude implies the coaptation of the least possible extent of articular contours. Not only is this the case in those joints into the formation of which the long bones enter, but also in the segments of the spinal column. By an exaggeration of the curves of the spine, the weight which is borne by the bodies in some of its parts in the erect position will be transferred almost entirely to the articular processes, while the reverse state of affairs will be found to exist in other parts of the spine. As a result, we have, in the first place, an *unequal* distribution of superimposed weight over the joint surfaces; and, secondly, the *least intimate* connection between individual bones attainable in the human subject.

Returning now to the erect attitude, let us make note of a commonplace fact, viz.: That it is in this position, standing squarely on both feet, with the trunk and extremities forming practically an unbroken column, and the greatest possible extent of articular areas applied one to another, that any jarring of the surface upon which the individual is standing, or vertical concussion communicated to the head or shoulders, is most readily appreciated, and, if considerable, causes the greatest amount of discomfort. The degree of concussion which in this attitude can be tolerated without discomfort is surprisingly small, and the amount necessary to damage tissue is not great. All of us have experienced the unpleasant jarring of the body incident to jumping from a slight elevation and alighting erect, or "stiff-legged," as it is sometimes termed.

Let us now inquire into the reason why jars are so readily appreciated in the erect attitude. To satisfactorily answer this question it will be of service to formulate the law governing the conduction of the sequence of impact—vibratory impulses—through the human body. This I venture to state in the following terms:

The mechanical effects resulting from the conduction of jars through media depend upon the density of the media and the directness of their linear continuity; the denser the medium and the more direct its continuity, the greater its conductivity.

It is, then, to the denser or bony parts of the body that we must give our principal attention in studying the conduction of jars through it. In the erect posture, with the long bones placed end to end and the spinal curves approaching as nearly as possible a straight line, we have the maximum degree of linear directness, and, consequently, the maximum degree of skeletal or bone conductivity attainable in the human body. It thus becomes evident why the maintenance of this attitude renders the individual so vulnerable to such traumatisms as jars or concussions.

Nature's Protection against Vibratory Traumatisms.—We have now determined upon the source and the nature of the ordinary traumatisms which are to be avoided in hip disease. We have also learned that when these traumatisms

are severe, or too long continued, healthy tissues may be damaged by them. And, finally, we have discovered the law which governs their transmission through the human body. Following out the legitimate sequence of these analytical findings, it will be our next business to study nature's means of protection against such traumatisms. The time allotted me will scarcely admit of more than mention of some of the more important physico-physiological factors connected with the avoidance of concussion or shock in the human body. The accomplishment of this object, in a greater degree than is possible in the erect posture, is absolutely necessary; otherwise the individual would be unable to successfully cope with the exigencies of every-day life.

Exaggerated Skeletal Curves and Angles as a Means of Protection against Jars.—In the accomplishment of this object, the hinge and ball-and-socket joints of the lower extremities, together with the mobile segmented spinal column, as might be inferred from the law just formulated, play a most important part. For it is by means of these that the direct linear osseous continuity of the erect figure, through the agency of the skeletal muscles, acting under the command of the central nervous system, can, at an instant's warning, be broken and decomposed into exaggerated curves and angles. The conduction of jars through the bones is thereby impeded by the obliquity of the impact of the molecular vibrations at the joint angles very much in the same manner as sound-waves take longer to reach a given point when deflected from side to side than when they go in a direct line. In this way, in proportion as we interfere with the directness of skeletal continuity, do we lessen bone conductivity; and likewise, in the same ratio, do we prevent the unpleasant effects of traumatisms. We thus have a logical and rational physical explanation of the *modus operandi* of exaggerated skeletal curves and angles and joints as a whole in averting the evil effects of the inevitable traumatisms of human existence.

Application of Physico-Physiological Data.—The practical applications which I wish to make of physico-physiological phenomena as they are successively elaborated are twofold. In the first place, they are to be utilized for the purpose of testing the therapeutic value of the prevailing mechanical methods of affording protection to diseased hip joints. In the second place, I shall make use of them, in conjunction with the demonstrable clinical facts and confirmatory pathological evidence already tabulated, as basal factors in the building, it is hoped, of a more rational and scientific system of mechanico-therapy than we now have, not only for the hip joint, but for that extended list of chronic articular ailments which have so long been recognized as presenting an insoluble therapeutic enigma, and yet for the relief of which so much has been said and so little really accomplished.

Therapeutic Inferences derived from a Study of the action of Exaggerated Curves and Angles in averting Jars.—Those of my hearers who have had the patience to follow me, and who are at all familiar with the so-called "principles" of the prevailing methods of treating hip and other joint diseases, will have no difficulty in recognizing the fact that we have already prepared the way, in some measure at

least, for the removal of the mantle from mechanical surgery which has so long and so successfully concealed its leprosy from the eyes of casual and credulous observers.

It may be asked, and I confess, at first blush, with apparent good reasons, Why have you, in considering the therapeutics of hip disease, finding it advantageous to refer to functional and structural articular details, extended the scope of your inquiries so as to include all the joints of the lower extremities and spinal column as well?

My reply is, Had physicians confined their mechanical treatment to the hip in hip disease to the extent, at any rate, of not seriously interfering with the functions of healthy joints, it would not have been necessary for me in this paper to have laid so much stress upon the function of other joints than the hip. But when recognized authorities—as, for instance, in our own country Dr. Lewis A. Sayre, and in Europe Mr. Hugh Owen Thomas—will for years persist in the promulgation of views so illogical and inconsistent that they can neither be harmonized with the clinical facts nor with each other, the time has come when some one possessing the courage of his convictions should step to the front in the name of progressive medicine, with a few pertinent correlated facts, in the hope of opening the eyes of credulous hero-worshippers and other willing victims of delusive and unsubstantiated assertions.

When a recognized authority, observing that, “by placing the hand upon the pelvis” of the hip-diseased patient “and making gentle extension upon the limb for a few seconds in the line of the deformity, motion can be made at the joint without causing pain”; when, furthermore, he declares that “motion is as essential in retaining a healthy condition of the structure about a joint as light is essential in retaining a healthy condition of the eye”; I say when, in the face of such statements as these, he deceives himself and his credulous followers into supposing, in the first place, that he is closely approximating the kind of force exerted by his hands by substituting for it a *rigid* bar “reaching from the pelvis to the bottom of the foot,” and provided with a mechanism capable of exerting only *rigid traction*; when, in the second place, he lashes, as it were, the entire lower extremity on the affected side to this rigid shaft by attaching it to the limb at the top and bottom and then slipping “the knee-pad band up or down until it is made to rest opposite the knee, when it is passed around the leg and buckled”; when also, in the face of such practices, he declares in a previous paragraph that he “can see no propriety whatever in restraining the movements of this joint” (the knee); when, I repeat, such conflicting statements and practices as these have been enthusiastically and effectively promulgated for years—the time is ripe for no longer tacitly acceding to the credibility of illogical dogmatisms simply because they may appear to have acquired a prescriptive right to our indulgences.

But let us calmly study the salutary remedial lesson to be derived from our knowledge of the action of exaggerated curves and angles in the human body in averting the mechanical effects of jars. We found, in the first place, that the conduction of jars through the body when at rest was most readily accomplished when the individual was in the

erect posture, standing squarely with equal weight on both feet; or, in the terms of our formula, during the continuance of the maximum degree of linear skeletal directness. In the second place, we found, when the direct linear osseous continuity of the erect figure was broken and decomposed into exaggerated curves and angles, that a very remarkable degree of protection against traumatism was secured, the explanation being that the progress of the vibratory wave was interfered with by the obliquity of impact at the osseous angles and curves. That exaggerated osseous curves and angles lessen bone conductivity does not imply that the maintenance of this attitude, partially squatting, is essential to the safety of the individual, but simply that it is desirable that such an attitude can be assumed when occasion requires. The indication to assume this attitude is derived from the information afforded by our senses.

Hence it will readily be seen that, in hip disease, to make use of a rigid shaft which passes over all the joints of the lower extremity on the affected side, to which the limb is lashed, as is customarily done, would be an insuperable barrier to the utilization, in the face of danger, of a remarkably effective normal method of joint protection. Nature's column, capable of instantaneous angular decomposition, is by this means placed in the perilous attitude of permanent linear continuity. The conditions for the conduction of jars are at their maximum degree of perfection, and it matters little whether or not the site of impact be transferred from the foot to the perineum.

But the greatest triumph of mechanical non-expertness in the treatment of hip disease from the physiological standpoint is that elaborated by the far-reaching genius of Mr. Thomas, of Liverpool. In his efforts to remove his therapeutics as far as possible from physiology, he has probably reached the highest degree of divergence; for not only does he strive to immobilize the hip and knee joints, but also to abolish motion, as far as possible, in the spinal column up to the level of the lower angle of the scapulae.

It would be interesting instruction to examine the illogical and unscientific details of this and other plans of treatment advocated for hip disease, but the scope of this paper forbids more than a suggestion in this direction.

The question which next arises, then, is whether exaggerated curves and angles are the only means Nature has for protecting herself against traumatisms?

(To be continued.)

CHANCER OF THE TONSIL.*

By R. W. TAYLOR, M. D.,
SURGEON TO CHARITY HOSPITAL.

This form of chancre, although not common, is not so rare as was once supposed, and it possesses points of much interest.

First, as to its origin. While it may result from contagion from initial syphilitic lesions about the lips and face, as a consequence of kissing, and also from mediate contagion, as by articles like nursing-bottles, pencils, perhaps

* Read before the New York Academy of Medicine, May 16, 1884.

cigars, etc., it is also frequently caused by depraved and unnatural sexual contact, which of late years has increased to an alarming extent in America. These lesions are interesting, also, in their diagnostic relations; and, further, in the fact that there is little doubt that some cases of the *syphilis d'embée*, or *larvée*, of the French were really instances of tonsillar infection, since nothing is more assured than that acquired syphilis always begins in a chancre.

I will detail the cases observed by myself, and refer in brief to the best-authenticated of those now on record.

In June, 1882, a young woman, twenty-two years old, who had been under my care for some time for *timea trichophytina cruris*, complained of slight sore throat. On examination, I found that there was some redness of the left tonsil, extending to the pillar of the fauces of the same side. It was not hard, nor were the ganglia perceptibly enlarged. I ordered a simple gargle, and awaited events. In a fortnight she returned, and then I found that the tonsil was much reddened, swollen, indurated, and exulcerated. Her tonsils had been the seat of simple hypertrophy, and then the diseased one had become much more prominent than its fellow. The induration was almost cartilaginous. She complained of much pain in swallowing, and there was an abundant mucous secretion. The ganglia of the left side of the neck and those under the jaw were much enlarged and matted together into a diffuse mass. She had not had any ulceration elsewhere, and the inguinal ganglia were not swollen until three weeks later. In due time a papular roseola appeared. She was also much troubled with recurring mucous patches. In this case the redness and swelling were limited to the affected side and confined closely to the tonsil. I learned that she had been guilty of unnatural practices, and had thus become affected in the mouth.

I was asked to see the following case by my friend Dr. McBurney. On examination, I found the left tonsil swollen, indurated, and superficially exulcerated, and covered with a whitish, granular film. The induration was well marked. The ganglia of the same side were much swollen, and many of those under the jaw and over the sterno-cleido-mastoid muscle were matted together. I had the opportunity of studying this case for some time. Its history is best given in the language of Dr. Fuller and Dr. Woodward, *internes* at Bellevue Hospital. Dr. Woodward says:

"The patient, Henry Elsmán, nine years old, a native of the United States, was admitted into Ward 7 November 9, 1882, for a compound fracture of the right tibia. The fracture was treated with a plaster splint, and the wound was sealed up with cotton and collodion. The patient's temperature was highest on the day of his admission, 100.1° F. After November 10th the temperature range was from 96.2° to less than 100°. When admitted, the patient presented no eruption on his body, and no enlarged glands were noticed.

"In the history-book it is stated that on the 15th an eruption had been noticed on his body for a few days before, and was recognized as a secondary syphilide. The precise date when the eruption appeared can not be obtained. Judging from the circumstances which I know existed at the time, I think it was about the 12th of November that the nurse called my attention to an eruption on the patient's body. I happened to be notified of the eruption before any other member of the staff. The eruption was then confined almost entirely to the chest, and was quite pale. Three days later Dr. McBurney pronounced the case one of syphilis, and on that day the lesions in the throat were discovered. On the 12th the glands in the left side of the neck were very much enlarged, and the patient told me that

they had been so for a "long time." The glands on the right side were not much changed in size from normal. November 15th the initial lesion was discovered on the left tonsil, as stated before. From the beginning the patient has had no sore throat, no loss of hair at any time, and no constitutional disturbance. The treatment has been by one sixty-fourth of a grain of corrosive sublimate three times a day, by the month, iodoform being applied to the left tonsil. December 5th inunctions of the oleate of mercury were begun. January 3d it was noted that no iodoform had been applied for about two weeks; the other treatment had been continued."

Dr. Fuller writes: "Accept my apology for the delay in sending you the particulars of the history in the case of the boy Elsmán whom you saw in Ward 7 lately. At best, they are very meager. He says that one afternoon, as he was returning from school, in Vandewater Street—the date he can not give, or even guess at—he was induced to show a strange man the way to the water-closet. The compensation for this information, or guidance, was five cents. He says that, while in the water-closet, he was induced twice (at the same time) to submit to the attention of the man, the evidence of which he has at present in his throat. There was no other boy with him, the man was a stranger to him, and this occasion was the first and last of its kind. He says he can show me the water-closet, which is in Chatham Street, and further says that he and the man were surprised by a woman who lives in the house to which the water-closet is an attachment. At this date (December 5th) the eruption is well developed on his face and head, as well as the body. The pharyngeal ulcer is nearly healed."

My friend, Dr. G. H. Fox, sent for my inspection a man who was also infected on the left tonsil as a result of depraved habits with women.

I have now under my care a young woman, suffering from a tubercular syphilide, whose syphilis began on the left tonsil. She narrates with great minuteness the mode of contagion from unnatural practices with a lover. She had, at the time of her tonsillar chancre, difficulty of swallowing, with some pain and swelling of the glands.

My friend Dr. E. Wigglesworth, of Boston, has sent me the following case:

"An enthusiastic medical student, now a physician, delivered, May 14th, 1879, an Irish woman of a child unconscious and apparently asphyxiated. With his own breath—mouth to mouth—he inflated the lungs of the child several times, but in vain. He then rinsed his mouth with gin, from a bottle belonging to the woman, having used some from the same bottle previously to rub the child's back.

"A month later, June 14th, he noticed a sore upon the right tonsil. This he burnt with nitrate of silver. The sore grew worse; the tonsil swelled; eating or drinking caused great pain.

"July 3d the hypertrophied tonsil and the elongated uvula were both cut off. The whole cut surface ulcerated. The right side of the neck swelled to a large lump involving the glands beneath the jaw and ear. The pain in swallowing increased, and there was some difficulty in breathing. This condition improved after the application of leeches. There was insomnia. A fortnight at the sea-shore caused no improvement.

"Toward the end of July there appeared a pretty general eruption of papules, in some cases with slight pustulation, over the back, arms, and legs, and afterward upon the face, and a few on the scalp, accompanied by malaise, some fever, headache, pains in the knees, and lassitude. There was loss of hair, not only from the scalp, but also from the eyebrows

and eye-lashes, all of which was subsequently regained after treatment.

"Still unsuspicious, or at all events unconvinced by these symptoms, the patient delayed consulting me until the 23d of August. He was put at once upon mercurial treatment, with tonics; hygiene, great cleanliness, baths, and nourishing food were ordered, and drinking was prohibited. The only other symptoms were a mucous patch on the larynx and one upon the lower jaw. Improvement was rapid. The symptoms all disappeared. Treatment was continued for two years and a half, with intermissions. Then he took iodide of potassium for six months. There were no relapses, except possibly a slight mydriasis of the right eye, occurring last October, during my absence from the country, and yielding speedily to potassic iodide. There were no other lesions. The glands in the groins were never swollen, nor those of the elbows."

My late colleague, Dr. Bumstead, narrated at great length to me a case of chancre of the tonsil which was contracted by a man as a result of an unnatural and beastly practice.

Schirajew* reports two cases.

The first was that of a woman, twenty-eight years old, who had redness, swelling, induration, and exulceration of the left tonsil, which was afterward covered with a grayish-white exudation. There was indolent swelling of the ganglia. In due time she had general manifestations of syphilis.

The second case was that of a mother, whose child was infected by its nurse, who was infected on the left tonsil by the infant.

Spilmann† reports the case of a woman, of good health and irreproachable habits, who consulted him for slight sore throat and ganglionic enlargement at the right maxillary angle. On the left tonsil was a superficially ulcerated patch, of the size of a cent, covered with a whitish-gray film. The parotid gland of the same side was enlarged and painful. Later on, general manifestations appeared. Infection in this case was traced to contact with a nursing-bottle of a syphilitic child. The woman did not have any lesion of the genitals.

Hulot‡ reports the following cases: 1. That of a married woman, twenty-seven years of age, of good constitution, who had on the left tonsil an ulcer, red, swollen, and indurated. The left pillar of the fauces was also involved. The corresponding ganglia were enlarged. Her infection came from a chancre of the mouth of a friend's child, which she was in the habit of kissing. 2. A man, twenty-three years old, had an ulceration, irregular and uneven, on the right tonsil, which was covered with a whitish film, under which there was a reddened base. There was marked induration, the corresponding ganglia were enlarged, and syphilis appeared later on. The man could give no account of the mode of contagion. His habits were none of the best. 3. A woman having chancre of the right tonsil, caused by kissing her daughter, who had mucous patches in the mouth. 4. A woman, married, thirty years of age, had a chancre on the right tonsil, contracted from her daughter, who had a similar lesion on the neck. She afterward developed syphilis.

O. Boeck* gives the details of four cases of tonsillar syphilis, in two of which infection occurred from the use of eating

and drinking vessels, and the third from a kiss. In the fourth the origin was not discovered.

The clinical history of these chancres is as follows: The first appearances noted are redness and swelling, without perceptible induration. In the course of a few days these symptoms are accentuated, the redness is greater, the hypertrophy is more marked, and there is also superficial erosion of the organ. Then this exulceration may increase, and is usually accompanied by the appearance of a grayish-white coating, which may be very thin or thicker, and may be of granular appearance and irregularly distributed over the ulcer. The induration is usually well marked, sometimes even cartilaginous. It, of course, differs in accordance with the density of the tonsil. If the latter has been the seat of chronic hypertrophy, it will be hard and firm; if it was previously healthy, it may only be slightly indurated. The prominence of the organ in disease will in a measure also depend on its size and condition previous to infection.

The diagnosis rests between mucous patches and syphilitic ulcerated, sclerosed tonsils, in both of which the lesions will not be so sharply confined to one side, nor accompanied by such well-marked adenopathy. Again, the history of the case will often establish the late origin of the lesions. The subjective symptoms are more or less difficulty in swallowing, perhaps pain, and uneasiness on the affected side, swelling of the corresponding glands, parotid and submaxillary, and of the lymphatic ganglia. This swelling, besides being at first unilateral, is always out of proportion to that observed to accompany secondary and tertiary lesions.

The points of diagnosis are as follows:

1. The details of the mode of infection, either from syphilitic sores, primary or secondary, chiefly about the mouth or face, and mostly by kissing; from infection by some article, such as a nursing-bottle, cigar, pipe, cup, or the like; or from indulgence in bestial practices.
2. The slow, unilateral development of the chancre, with corresponding gland and ganglion enlargement, so well marked.
3. The limitation of the lesion to the affected side.
4. The difficulty in deglutition, and even pain, which is referred to one side.
5. The history of the evolution of the syphilis, the absence of chancre from other parts, especially the genitals, and the much less indurated condition of the ganglia seated elsewhere. Those that are seated at a distance may not be affected until near the date of the evolution of secondary manifestations.

A CASE OF

CHRONIC DISEASE OF THE MASTOID ANTRUM,

WITH OBSTRUCTED OUTLET FOR THE DISCHARGE, ILLUSTRATING THE VALUE OF WELL-TIMED OPERATIVE INTERFERENCE AND THE IMPORTANCE OF THOROUGH CLEANSING OF THE EAR BY DOUCHE OR SYRINGE.

By HUNTINGTON RICHARDS, M. D.,

ASSISTANT SURGEON AT THE NEW YORK EYE AND EAR INFIRMARY.

The history of the following case is condensed and in part quoted from detailed notes taken throughout the course

* "Harte Schanker an der Tonsillen," "Petersburg. med. Wochenschrift," 39, 1880, and "Vierteljahresschrift für Dermatologie und Syphilis," 13, 126, 1881.

† "Contribution à l'étude du chancre buccal," "Annales de dermatologie et de syphiligraphie," x, 1880, p. 78.

‡ *Ibid.*

* "Vier Fälle von syph. Infect. durch die Tonsille," "Tidskrift för prakt. Med.," No. 13, 1883: "Monatshefte für prakt. Dermatologie," Oct., 1883.

of treatment. The patient, a young lady, aged fifteen years, had been the subject of purulent disease of the middle ear for the period of twelve years, or ever since she was three years old.

Previous History.—The patient has never had scarlatina or diphtheria, and says that she is not subject to attacks of sore throat. In the winter of 1871 she had measles, followed, after an interval of two months, by pain in the right ear, which lasted for several days, until the establishment of an aural discharge. Ever since that time she has been subject to attacks of pain in the same ear, alternating with otorrhea, such attacks recurring about once every twelve months. Pain and otorrhea have never been co-existent. The usual duration of these otalgic periods has been about four days. Some fifteen months ago she had an attack of pain which lasted considerably longer—viz., one month. A polyp was then removed from the ear, its removal having apparently brought about a cessation of the long-lasting pain. She has noticed a bad odor to the discharge only during the past four years.

May 2, 1883.—At the request of her physician, Dr. Buechler, of this city, the patient was seen by Dr. Albert H. Buck, from whose case-book I abstract the following brief notes: "Chronic discharge from right ear. Pain for several days past, increasing in severity. No discharge since yesterday." Dr. Buck found a prolapse of the upper wall of the external auditory canal, almost obliterating the canal and entirely preventing a view of its deeper parts. He syringed out the canal, using for this purpose a slender, straight glass nozzle introduced beyond the obstructing prolapse, and ordered the use of poultices at home and complete rest. On the following day Dr. Buck incised the prolapsed wall down to the bone, evacuating a considerable quantity of foul pus interspersed with small masses of cheesy material. By aid of the bent probe and curette several large masses of this material were extracted, showing that there was undoubtedly more of it lodged somewhere in the deeper parts of the ear. On the next day Dr. Buck noted as follows: "Perfectly comfortable night. Free discharge." Three days later (7th) the pain was beginning to return, and the discharge diminishing in amount. The cleansing of the ear was performed daily with the slender glass nozzle at the office, it being quite out of the question for the patient to succeed in doing it herself with any form of syringe or douche.

8th.—Dr. Buck noted as follows: "Sleepless night. Very little discharge. Much pain, referred to back of head generally, and also to deeper part of ear. No appreciable localization of the pain behind the ear; no redness and no tenderness of the mastoid integuments. Temperature, 100° F. As my attempts to overcome the obstructions existing in the external auditory canal seemed not only to fail of accomplishing their purpose, but rather to aggravate the active inflammation of the entire region, I decided to establish an artificial opening through the probably sclerosed mastoid process. Patient etherized. An obtuse-angled incision made. No arterial hemorrhage. Periosteum pushed forward until edge of meatus was exposed, and then applied drill above and a little behind orifice. Bone found to be solid, but not excessively hard, for a distance of half an inch. At this depth the drill (6 mm. in diameter) encountered some resistance, and I withdrew it from the opening in the bone. On introducing a slender probe, I found that at the bottom of the artificial channel there was a small opening, perhaps a millimetre in diameter, through which the instrument passed onward, without meeting any resistance, for a distance of another half inch. This latter cavity was undoubtedly the antrum. By a careful use of the drill I was able to ream out this narrow opening until it measured fully two millimetres in diameter,

this cautious use of the drill being rendered necessary by the danger, which is by no means imaginary, of splitting the temporal bone. Soon afterward, when the patient began to vomit from the effects of the ether, rich pus welled up from the opening in the bone. Wound syringed out with a strong solution of carbolic acid, and external wound left gaping." From this time on the care of the case was committed to the writer of this article, and it progressed as follows:

9th.—Patient passed a fairly comfortable night, having no pain. The removal of the dressings was attended by a good deal of pain and by considerable hemorrhage, due to the probable nicking of a small arterial branch at lower angle of incision during the operation. Pus found lying in external auditory canal, and also, on removal of dressings, seen issuing from the opening in the bone. On account of the bleeding, no attempt was made at this time to syringe out the channel in the bone, and the wound was filled with lint well coated with vaseline. Patient revisited at 9.30 p. m. No further hemorrhage. No pain. Temperature, 100° F.; pulse, 100.

10th.—Dressings removed; surface of wound rather sloughy; no hemorrhage; sinus in bone syringed with carbolized water (1 to 20); no return current through external auditory canal. Lint, smeared with borated vaseline, was applied to surface of wound, over this a layer of carbolated lint, and as outside dressing a thick layer of oakum held in place by a bandage. The patient has no pain, but there is some stiffness of the cords of the neck (right side). Tongue clean; some appetite; temperature 100.5° F., pulse 118.

11th.—By means of a Hartmann's nozzle, straightened at its point and attached to a Davidson's syringe, the sinus in the bone was thoroughly sluiced with carbolized water, and the external auditory canal was cleansed with borated water (a common ear-syringe being used for this purpose); wound dressed as on May 10th; patient has no pain; she looks and feels much better; temperature 100° F., pulse 100; discharge moderate in amount and smells less badly than it did yesterday; considerable swelling below wound in region of parotid gland.

12th.—Less swelling below the wound; surface of wound looks cleaner; the bad smell, noticed May 10th and 11th, in the dressings removed, has now decidedly diminished; temperature 100° F., pulse 102; wound dressed as yesterday.

13th.—The patient sitting up; no headache and no pain about the ear; the wound looks well and the glandular swelling below it has almost entirely disappeared; the stiffness of the right side of neck, observed on May 10th, has diminished, but the patient notices a slight stiffness on the left side; temperature 99.4° F., pulse 120; scarcely any bad smell to dressings removed. Substituting a saturated solution of boric acid for the carbolized water hitherto employed, I syringed the wound and bone sinus with the usual degree of force, and for the first time succeeded in getting a return of the fluid through the external auditory canal, although only to the extent of a few drops. The syringing caused a slight and very transitory sensation of pain and of fullness in the ear. Examination of the external auditory canal by reflected light showed its lining membrane of a pale-red color; no view of deeper parts of canal, as the obstruction was still too great, but I succeeded in slowly passing a probe wrapped with cotton past the obstructing prolapsed wall and down to the estimated level of the annulus tympanicus. This manoeuvre caused the patient no pain. The usual dressings were applied to the wound, a cap being substituted for the retaining bandage.

14th.—The patient has had rather a poor night, and complains to-day of slight sore throat. Temperature 101.9° F., pulse 120; tongue furred; bowels regular. Examination of the throat shows a slight exacerbation of a chronic pharyngitis, and, in

addition, mild follicular inflammation of the right tonsil. Ordered care in diet, a soda gargle, and quin. sulph., gr. vj, at bedtime, the latter to be continued hereafter in doses of gr. ij, t. i. d. Usual dressings applied; no return current obtained through the meatus when the bone sinus was syringed (yesterday's very gentle exploration of the auditory canal had probably sufficed to increase the swelling of its walls).

15th.—Patient had a better night; throat less sore and tongue cleaner. Temperature 101-9° F., pulse 180. She says she had slight pain in one elbow and in one of her wrists yesterday; none to-day. Quin. sulph. to be increased to gr. x at bedtime to-night, and gr. iv, t. i. d., hereafter. Usual dressing and syringing, but no return current through the ear. The wound is discharging healthy pus, and the discharge is more abundant.

16th.—The patient feels better and has decided appetite. Tongue fairly clean. Temperature 99-4° F., pulse 100. Wound looks healthy and is discharging freely. Return current through the ear re-established when the bone sinus is syringed. A rubber-capped and tightly fitting nozzle introduced in the auditory meatus and the ear syringed in the reverse direction, with the result of causing the current to emerge through the wound, and also, in part, through the patient's nose by way of the Eustachian tube.

17th.—Temperature 98-7° F., pulse 102. There is no more sore throat, and the patient states that she has had no pain in the ear, nor any headache "of any account," since the operation on May 8th. Ear syringed as yesterday, but with a different result, a return current being only established during the use of the closely fitting nozzle in the meatus, the Hartmann's nozzle being so much smaller than the caliber of the sinus in the mastoid process that much of the force of the current is lost.

18th.—Temperature 99° F., pulse 112. Patient allowed to go out of doors for a short time.

19th.—Temperature 98-4° F. No attempt made to syringe through the sinus, and, in using the syringe in the meatus, I substituted the slender Hartmann's nozzle for the larger obturating nozzle hitherto employed; as a result, a few drops of the borated water returned through the sinus, and a considerable quantity through the Eustachian tube.

20th-23d.—Same dressing and same method of syringing as on May 19th.

24th.—Patient came to the office. Thinking it possible that the Hartmann's nozzle, as used in the external auditory canal, might have a share in keeping up the swelling in the walls of the latter, I substituted for it to-day the less irritating short-pronged nozzle of the "Angelo douche"; the patient to use the same nozzle at home, attaching it to a gravitation douche having its reservoir suspended eight or nine feet above the floor.

26th.—Temperature 98-2° F. Quinine reduced to gr. ij, t. i. d. External auditory canal more patulous. Small flakes of curdy pus brought away by the return current through the sinus. Contrary to what was observed some time ago, the chief swelling in the auditory canal is now along the anterior and inferior wall.

June 1st.—The patient uses the gravitation douche twice a day. Examination by reflected light shows the canal so free that a fair view can be had of its deeper parts. A large polyp seen lying in the tympanic cavity. Profuse, badly smelling discharge lying in the auditory canal to-day, and so the douche ordered to be used more frequently.

From this time until June 23d the patient was seen at the office about once every three or four days. By June 11th, the external auditory canal having become sufficiently roomy for such manoeuvres, a considerable portion of the polyp was removed by Blake's snare; another smaller portion was similarly removed on June 16th. On June 9th it was noted that the wound behind the ear had become a mere line of granulations

about half an inch long, and the discharge from it was so slight in amount that by June 11th it was found scabbed over. This scab, however, had fallen off by June 16th, and again there was a slight discharge from the mouth of the sinus it had covered; a free return current also took place through this sinus when the ear was syringed. (Careful examination of the patient's nose and throat having revealed the customary lesions of chronic naso-pharyngeal catarrh of the hypertrophic variety, she was put upon a systematic course of local treatment for this condition, such treatment being begun on June 1st.)*

On June 23d the scab had reformed, but exploration with a probe demonstrated that the sinus was still pervious, and, when the ear was syringed, a few drops of the borated water were seen to trickle from its mouth. The caliber of the auditory canal had greatly increased, and, the general condition of the ear seeming to warrant it, I allowed the patient to leave town and go to the country for a week. The tonic dose of quinine was discontinued, but she was directed to persist in the use of the cod-liver oil (3 j, t. i. d.), which had been ordered a few days previously. On July 2d she returned to town looking extremely well, with good, healthy color, and reporting that she had experienced no discomfort about the ear. There was free discharge from the external auditory canal, and slight discharge from the sinus. A probe detected bare bone around the margin of the aural polyp, a considerable portion of which latter was again removed by the snare, and the patient was permitted to return to the country for another week, it being distinctly understood that, upon the supervention of any bad symptoms, she was to report at once for examination.

About the middle of July the external auditory canal again became stenosed, and a separating sequestrum was detected in the tympanic cavity (July 10th and 17th), its attachments, however, being too firm to admit of its removal. This sequestrum came away spontaneously July 19th, and, from its shape, I judged it to be a portion of the anulus tympanicus. On July 22d the discharge stopped, and for the first time since the operation the patient experienced decided pain in the ear; this pain, however, was of short duration, being quickly relieved by frequently repeated douchings of warm water. Next day the patient came to the city, and I found the auditory canal almost closed from sagging of its walls; the sinus behind the ear was firmly and,

* The details of this treatment it is not necessary to give, but one point observed during the examinations of the throat may be worthy of mention, as showing a decided connection between the pharyngeal lesions and the suppurative disease in the ear. Besides the presence of markedly enlarged tonsils and of a general hypertrophy affecting the mucous membrane of the anterior and posterior nares and of the entire pharynx, it was very noticeable that the chief amount of the pharyngeal hypertrophy existed on the right side, a long band of pale, yellowish-red, very soft and flabby mucous tissue running perpendicularly down this wall of the pharynx, while no such corresponding band existed on the other side. In view of the decidedly patulous condition of the right Eustachian canal (a condition abundantly demonstrated during the syringings of the ear), it is not unreasonable to suppose that a constant leakage of foul pus was the prime factor in producing so unusually marked a degree of hypertrophy on this side of the pharynx. The reasonableness of this supposition was further confirmed by the subsequent progress of the throat lesions; thus, on August 8th, the external auditory canal having become very much larger in its caliber, the aural discharge being reduced to a minimum, and the sinus behind the ear having long remained permanently closed, it was noted that this peculiar band of thickened tissue had disappeared, while the hypertrophy in other parts of the pharynx, in spite of the local and general treatment employed, had undergone, by comparison, only a slight degree of improvement. Here, then, we seem to have an instance of a sequence of events not commonly observed—viz., a lesion of the throat caused by disease of the ear.

as the result showed, permanently closed. On syringing with the Hartmann's nozzle, a large quantity of badly smelling caseous matter was evacuated from the drum cavity, and the patient was directed to use her gravitation douche five or six times daily. The next morning she reported that she had had no further pain or discomfort about the ear. Syringing at the office again brought away a large amount of the caseous material, but there was much less stenosis of the auditory canal. On the following day the canal was sufficiently free to allow of my snaring off a portion of the polyp, and the same manoeuvre was repeated July 26th. By this time the amount of caseous matter evacuated by the syringing had become so much less that the patient was allowed to discontinue her visits to the office until July 30th.

July 30th.—I noted as follows: The auditory canal had become more patulous than at any time since the patient first came under observation, permitting a full view of the tympanic cavity. The discharge from the ear had also greatly diminished in amount, and the patient observed that it had less of a disagreeable odor. The polypoidal mass occupying the posterior and lower portion of the drum cavity had shrunken into an irregular shriveled hummock, pale-red in color, and still soft and like granulation tissue at its anterior margin; but backward from this point rapidly increasing in density, and white in color, until it merged into the posterior wall of the external auditory canal at its tympanic orifice. Instead of the straightened Hartmann's nozzle previously employed in syringing the canal, I to-day made use of a slender glass nozzle specially prepared and having an abrupt upward curve at its tip; this nozzle was attached to the Davidson's syringe, and was carefully introduced into the now roomy drum cavity in such a manner that its curved extremity should be directed toward the upper and posterior hidden portion of this cavity. Forebore douching through the nozzle, firmly held in this position, resulted in the evacuation of a few shreddy fragments of epithelium mingled with minute flakes of cheesy pus, the latter also in small amount. The anterior pale-red portion of the now wart-like polyp was touched with the "solid bead" of nitrate of silver, and a little burnt alum was dusted over its surface. The patient was allowed to reduce the number of her douchings at home from five or six down to four daily.

August 2d.—The applications of July 30th were repeated and the ear was similarly syringed, the borated water returning quite clear, except for the presence of a few small flakes of epithelium; no caseous matter. The discharge from the ear had very greatly diminished, and presented hardly a trace of its former bad odor.

6th.—Above and behind the shrunken base of the polyp a probe may be passed into a very roomy space, the posterior portion of the tympanic cavity having evidently become abnormally enlarged. (This very striking expansion of the drum cavity was doubtless the result in part of the carious and necrotic processes which had, as it were, nibbled away its limiting walls. Chiefly, however, may it be ascribed to an absorption of these walls, the effect of pressure exerted upon them by an ever-increasing mass of the caseous material and exfoliated epithelium constituting the characteristic *débris* of a chronic inflammatory process in this region.) Absorbent cotton on a bent probe, passed into this cavity, brings away a small amount of caseous pus. To-day the ear was not syringed, the application of burnt alum alone being made, and the experiment was tried of discontinuing the use of the douche at home.

7th.—Rather more discharge was found lying in the drum cavity and deeper part of the canal, and so the ear was again syringed out as on July 30th and August 2d, and the patient was ordered to use her douche three times daily.

8th.—A small but firmly attached spiculum of bone was seen projecting from the middle of the wart-like hummock in the drum cavity. Usual application of burnt alum was made and the ear insufflated with iodoform. The patient was permitted to go to the Catskill Mountains for three or four weeks, but was enjoined to continue the use of her douche while there.

September 11th.—The patient just returned from the Catskills and in excellent health. She has kept up the use of her douche as directed. A minimum of discharge from the ear and no bad smell. To-day I removed a small blackened spiculum of dead bone from the still persisting hummock of shrunken polypoidal tissue. A decided desquamative process going on in the tympanic cavity. After carefully cleansing the ear by means of the curved glass nozzle, I filled the entire cavity with a warmed solution of nitrate of silver (gr. ijss. to 3j). This solution being allowed to remain in the ear about two minutes (during which time it caused no pain or discomfort by its presence), I washed out the ear with a common syringe, carefully dried all parts of the surface with absorbent cotton, and applied powdered iodoform by cotton-holder and insufflator.

15th, 18th, 22d, and 24th.—Same treatment.

28th.—Increased the strength of the solution of nitrate of silver to gr. v-3j; the patient to douche her ear only twice a day hereafter.

From October 2d to October 23d I was absent from the city, and she was directed during this interval to syringe her ear with the usual borated water every morning, and in the evening, after a preliminary cleansing with pure water, to instill ten drops of the following solution: \mathcal{R} Plumbi subacetat., gr. ij; aq. destillat., 3j.

October 23d.—The patient reported that the antral discharge had entirely ceased. On examination, the drum cavity was seen to be exceedingly roomy, a very cave in fact, and its walls looked smooth, white, and perfectly dry; nevertheless, a probe wrapped with cotton and bent at a right angle near its tip detected a minute quantity of pus lying on the outer wall of the tympanum in the region of the mastoid antrum. The usual applications were made at the office, and repeated at intervals of about four days until November 17th. During this period, besides the customary flooding of the entire cavity with the five-grain solution of nitrate of silver, I directed my attention especially to the point of persisting secretion near the antrum mastoideum, applying to this point, by means of a sharply bent cotton-holder, a solution of much greater strength (gr. xx-3j, and even gr. xlv-3j). On November 17th this obstinate point began to yield, its secretion being reduced to such an infinitesimal quantity that the cleansing of the ear at the patient's home was ordered to be omitted for forty-eight hours. The burnt alum, previously applied by cotton-holder, was to-day mixed with the iodoform, and the mixture was blown in by the insufflator. On November 20th I repeated this insufflation, but omitted the use of the nitrate of silver solutions, and the patient was instructed to let the ear entirely alone and to report for examination.

November 24th.—Finally, on this day the patient was dismissed from treatment and was emancipated from the use of the douche and ear-drops at home, the drum cavity showing no further trace of purulent secretion. The scar left by the operation was very small and was completely covered by the patient's hair, and there was no perceptible displacement of the auricle. A letter from the young lady's father, dated March 6, 1884, reported that her ear was "all right"; she had had no pain; there was no unpleasant odor remaining about the ear; and, there being no discharge from it, the douche had been permanently laid aside.

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PECUNIARY AID TO MEDICAL COLLEGES.

WE lately suggested a reason for the rarity of gifts of money to medical colleges, namely, the lack of information which might be presumed to exist on the part of wealthy and benevolent persons in regard to the independent basis on which such institutions are generally managed in this country, and to the necessity of giving to them specifically if they are to be benefited by the gift. It must be that some such misapprehension is at the bottom of the apparent disinclination of wealthy persons to confer substantial benefits on the class of schools in question, but no doubt also persons of that sort fail in many instances to appreciate the beneficent effect that would result to the masses from any measure calculated to promote the most efficient teaching of medicine.

Men give freely to hospitals, perhaps because the application of such gifts in the cause of charity is more perceptible, if not more direct. It is difficult to avoid the conclusion that this notion implies a radical misconception of the nature of a hospital. If hospitals were merely retreats where the sick and the injured were to be sheltered and fed, the expensiveness of their administration would be out of all proportion to the objects in view, and it would be much more economical to discontinue them altogether, and multiply and improve our almshouses instead. A hospital is not only a place of shelter; it is also a place where the sick and the injured are to be cured, in so far as it may be practicable, or, that being out of the question, their lives prolonged and their sufferings mitigated. Without depreciating the importance of the auxiliary means to this end, such as good food and good nursing, it can not be questioned that the prime factor in determining the degree in which a hospital will accomplish the purposes for which it was established is the knowledge and skill of its medical staff. As medical science advances, patients are cured who, ten years before, would have been looked upon as inevitably doomed to speedy death, or at least to enduring disability and misery. The more the advance of medicine is promoted, the greater will be the proportion of persons benefited by its ministrations.

It may be said that a reciprocal action is going on, that hospital work necessarily advances the art of medicine. This is undeniably true, but it is not the whole story—it is not alone, or chiefly, by the observation of disease that medical progress is accomplished; it is rather by the systematic study of the fundamental branches, by laboratory work, by work which at the time may seem to have but a remote connection with the treatment of disease. Now, research of this sort is not self-sustaining, and in no considerable degree do the studies of the investigator aid him in the task of making a living. Those who

build up the science that flowers into the art of medicine should be men who are free from the constant need of taking thought as to their own maintenance and that of their families. With that freedom secured to them, they may not, it is true, cure a single patient in the whole course of their lives, but they may, nevertheless, be the means of enabling practitioners of the art of medicine to extend the benefits of that art immeasurably.

Those branches of the medical curriculum, therefore, which call for continuous research and for the use of expensive adjuncts to teaching ought to be provided for by pecuniary aid from the laity. Who gives for such a purpose gives not to benefit the members of the medical profession, but to benefit the community, himself included. What are called the practical branches, however, do not seem to stand in need of any such provision; indeed, it may be questioned if the endowment of a medical college as a whole is a good thing. Practical medicine and surgery and obstetrics are best taught by men who are engaged in the active practice of those branches—in homely phrase, by those whose bread and butter depend on their practice and their teaching. It is true of most men that nothing but the need of the "almighty dollar" will draw out their best work. Give a man to understand that his income from teaching is to depend on his ability to satisfy the students' demands for knowledge, and he will exert himself to the utmost; but put him on a salary, and he stagnates. From these considerations, those who make gifts to medical colleges are doubtless wise in specifying the particular use to which the money is to be put, as was done in the case of a recent benefaction to Bellevue Hospital Medical College.

RECTAL ETHERIZATION.

ON more than one occasion we have cautioned our readers in regard to the indiscriminate trial of therapeutic novelties. Thus far, we have refrained from mentioning the practice of anæsthetization with ether introduced by way of the rectum, lately proposed by M. Mollière, of Lyons, but it has now been tried in a number of cases in New York, with such results that, while they point to certain features of excellence, seem to call for a renewal of the caution alluded to.

It is no more than fair to say, at the outset, that the method promises very substantial benefits. These benefits are, in the inverse order of their importance, the saving of ether and the avoidance of the preliminary strangling and struggling which are so trying to the patient and the surgeon in the production of anæsthetization by the inhalation of ether. In regard to the saving of ether, we do not understand that those who favor the method profess that less of the drug is actually introduced into the system, but only that none of what is used is lost. If this statement is correct, the advantage of the practice, so far as the consumption of ether is concerned, is a paltry matter of economy, not for an instant to be weighed against any danger which may attend it. The other good feature alleged for the method seems well attested; in almost all instances the patient has gradually and with reasonable promptness fallen into a state resembling natural sleep, preceded by little if any exhalation,

and of course by none of the laryngeal irritation so commonly seen during the early stage of the inhalation of the vapor of ether. Curiously enough, in one instance that has come to our knowledge the rectal administration failed utterly, although the trial was prolonged for as much as twenty minutes, at the end of which time the patient was as wide awake as at the start, and the attempt had to be abandoned. Barring such an exceptional case, it is obvious that the method does away with some of the chief objections to the use of ether as an anæsthetic, and, besides, that it enables anæsthesia to be used in certain operations about the face and throat where inhalation is usually found very inconvenient and sometimes impracticable. There seems to be an impression, too, although we have not heard the statement made in positive terms, that there is apt to be less nausea after the patient has emerged from the anæsthesia than when the inhalation method has been employed. If this should prove to be the case, the new practice must certainly be credited with an additional advantage of no slight importance.

Unfortunately, the method is not without its dangers, as shown by the fact that it has given rise to at least two deaths during the few weeks that it has been on trial in New York. This should not lead to its hasty condemnation, but most assuredly it should emphasize the caution with which it is to be employed, as well as the necessity of so improving the technics of the procedure as to draw from it as many as possible of its advantages with the utmost attainable avoidance of its dangers. The two deaths to which we have referred are attributed to intestinal irritation, and it is worthy of remark that in many instances that have not proved fatal such irritation has been observed. One of the deaths was that of a child, and there is a feeling with some of those who have made use of the method that it is not appropriate in the case of children, since there is reason to think that the mere distension of the intestine sometimes produced by the vapor, quite apart from an irritant action, is apt to be followed by serious results in children. In the other fatal case, that of a woman whose general health was not known to be impaired, the anæsthesia was induced for so trifling a procedure as the cauterization of a chancreoid, and after death the whole large intestine, together with the lower part of the small intestine, was found in a state of acute ulceration.

It is to be noted that some of the gentlemen who have tried the method have witnessed intestinal irritation in almost all their patients, while others have found it quite the exception. The inference is drawn that in the one case sufficient precautions were not taken to guard against the injection of liquid ether into the rectum. It is recommended, therefore, that the apparatus employed should be such as not to allow of this occurrence, and, in particular, that the tube leading from the ether receptacle should not be long enough to afford an opportunity for the vapor to condense before it enters the intestinal canal. It is considered desirable, too, that the bowels should be cleared out by means of an enema before the administration is begun; but this precaution, we take it, bears rather upon the efficiency of the practice than upon the avoidance of danger. It is to be hoped that careful attention to some such matters of detail as

we have indicated will render the method practically as free from danger as that by inhalation. Until that state of things is assured, we must insist on the need of great discrimination in the employment of anæsthetization by the rectum.

THE MECHANICS OF THE BRAIN.

We lately summarized some remarkable statements made by M. Luys before the Paris *Académie de médecine*, the purport of which was that the brain underwent certain movements within the skull in accordance with changes in the attitude of the body, those movements being provided for by the existence of an "empty space" between the brain and the skull. At the outset, M. Luys's ideas encountered sharp opposition, and the discussion has been continued at various meetings of the academy. At a recent meeting, reported in the "*Gazette hebdomadaire de médecine et de chirurgie*," M. Luys brought forward fresh arguments in support of his position. He stated that he had placed a cadaver in the upright posture, and had then made a hole in the vault of the cranium, through which he injected a substance capable of coagulating, and finally made a counter-opening in the lower part of the skull, for the purpose of draining off the cerebro-spinal fluid. After this the cranium was laid open, and it was observed that the material that had been injected occupied chiefly the superior part of the convolutions. On varying the experiment by placing the cadaver on the back, the greater thickness of the solidified material was found seated over the frontal lobes. All this proves, in his opinion, that the brain, being smaller than the cranial cavity, always tends to sink downward, leaving at the upper portion, varying with the attitude, a free space demonstrated by the greater thickness of the injected matter, this free space being estimated at about one eleventh the volume of the brain.

Arguing particularly from the pathological standpoint, M. Trélat combated M. Luys's position, calling attention to the fact that the brain was so arranged as to undergo the least possible effect from the mere action of gravity, whether occasioned by changes of attitude or by jars of the head, and to escape the consequences of variations of pressure dependent on respiration, arterial diastole, or depletion of the sinuses by changes of position or muscular exertion. Under normal conditions, the blood in the sinuses and the venous plexuses on the one hand, and the cerebro-spinal fluid on the other, were the agents of this preservative mechanism; so that the movements of the cerebral mass, thanks to the arachnoid, were limited to slight variations of tension on the part of the brain or its envelopes. Consequently, if the mechanism portrayed by M. Luys were founded in fact, contusions and attritions of the brain would be frequent; yet, as a matter of fact, considerable force was required to produce such a result.

Whenever the movements described by M. Luys took place, the conditions were pathological, and he could not admit the force of experiments on the cadaver, for there was apt to be a disappearance or diminution of the cerebro-spinal fluid, or absence or coagulation of the venous blood. It was a question if we could admit that the injection of a coagulable material into

the arteries re-established the conditions that obtained during life. Pathological observations by Broca and Verneuil showed only that the encephalon underwent variations of pressure, the sources of which were known; we could not infer that the brain was capable of displacement as a whole.

M. Sappey admitted M. Luys's facts, but differed with him as to their interpretation. The weight of the brain, he said, was not so great as was commonly stated. Its anatomical weight was not usually more than 1,350 grammes, while its physiological weight, meaning its weight as it floated in the cerebro-spinal fluid, was about 45 grammes on an average—about one thirty-eighth of its anatomical weight. Although it was generally supposed that the cerebro-spinal fluid was spread out evenly over the surface of the brain, he did not share in this view; the brain sank to the base of the skull, on which it rested, and the fluid accumulated mainly over the surface of the hemispheres, in a layer averaging about 5 mm. in thickness. To determine whether, as maintained by M. Luys, the brain left the base of the skull when the attitude was changed, he had opened the cranium at the base, instead of at the vault; having opened the spinal canal, and so arranged the meninges that the cerebro-spinal fluid could not escape, he had caused the subject to rest on the vault of the cranium, and, after removing the face and exposing the base of the skull, he had made little openings in the roof of the orbit, and then at the level of the sphenoidal fossæ; and, no matter what the attitude might be, the brain did not leave the base of the cranium until the cerebro-spinal fluid was drawn off.

MINOR PARAGRAPHS.

THE PASSENGER SHIP MEDICAL SERVICE BILL.

We are informed that the bill has been so amended by the committee having it in charge as to require the sanitary reports of medical officers to be made to the Port Physician or Health Officer of the port of entry, as a necessary prerequisite for the granting of pratique. It was very pertinently suggested at the recent meeting of the American Medical Association that a sanitary report made to the captain or master alone would never leave his office, and that one made to the owners of a vessel, if condemnatory, would merely lead to the surgeon's discharge. The amended bill also provides a more serious penalty than a fine of two or three hundred dollars, which would be a mere bagatelle to a wealthy corporation.

THE SOCIAL ELEMENT AT THE WASHINGTON MEETING.

A RESIDENT of Washington writes to us as follows: "The usual disgraceful performances took place at the receptions. Mrs. L. generously opened her beautiful house, and provided as fine a table as Demenet could serve. She was rewarded by having men stalk in (hats on their heads) from the front room to the dining-room, where they fought like wolves for places at the tables, overturning piles of plates, breaking her expensive ornaments, and soiling her rugs with pools of tobacco-juice."

We all know that a small army of hangers-on attend the meetings of the American Medical Association, and that most of these fellows manage to get cards admitting them to the receptions, where their boorishness tends to bring the association into discredit. In view of these facts, it seems to us that

the interest of the profession would be furthered if measures were taken to put a stop to the admission of these interlopers.

THE INDISCRIMINATE SALE OF POISONS.

We have frequently called attention to the unwarrantable and dangerous freedom with which poisons of various sorts were to be had by the public. We learn from Dr. F. E. Daniel, of the "Texas Courier-Record of Medicine," who introduced most commendable resolutions bearing upon the subject at the recent meeting of the American Medical Association, that Dr. Henry F. Campbell, the new president of the association, told him at the meeting that he was himself cognizant of a great number of cases of stricture of the œsophagus due to swallowing "concentrated lye," a preparation which is to be had by any purchaser. It was toward restricting the sale of this preparation and that of the domestic potash ball that Dr. Daniel's resolutions were directed.

A KNOWING WITNESS.

At a recent trial in this city a medical "expert" was examined in regard to certain points in neurology. In the cross-examination he was asked if he recognized a particular book as authority in the matter, and the question was repeated in regard to another book, and then another. His answers were to the effect that he was familiar with all the books mentioned, and that they were authorities on the matters alluded to. The medical witness was then allowed to leave the stand, and the lawyer's clerk was sworn, who testified that the titles of the works in question were fictitious, having been concocted in the law office to which he was attached.

LUSK'S "MIDWIFERY" IN SPANISH.

THE "Revista de Medicina y Cirugía Prácticas," one of the best of the Spanish medical journals, follows the policy of furnishing the profession with separate monthly publications, in book form, for a small annual payment. They have the advantage over the "libraries" published in this country that the individual monthly parts may be bought. The February issue consists of the first 176 pages of an excellent translation of Professor Lusk's "Midwifery." The print is very clear and agreeable, and the illustrations, although not so well executed as those of the American edition, are fair.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 20, 1884:

DISEASES.	Week ending May 13.		Week ending May 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus.....	9	3	4	3
Typhoid Fever.....	10	4	4	1
Scarlet Fever.....	80	17	99	15
Cerebro-spinal meningitis....	4	3	6	4
Measles.....	131	17	94	13
Diphtheria.....	48	18	30	17
Small-pox.....	1	0	0	0

THE NEW BUILDING FOR THE GERMAN DISPENSARY, the gift of the late Mrs. Oswald Ottendorfer, will be opened with appropriate ceremonies this afternoon, at half past three o'clock. The programme, interspersed with songs by representatives of the Liederkranz and the Arion societies, includes a presentation speech, by Mr. Ottendorfer; a speech of acceptance, in behalf

of the German Hospital and Dispensary, by Mr. Kilian; an address in the name of the medical staff, by Dr. A. Caillet; and a discourse by Dr. A. Jacobi. On Sunday afternoon the building, which is situated at No. 137 Second Avenue, will be open to visitors having cards of invitation. In a building adjoining the dispensary, Mr. Ottendorfer has generously provided quarters for a branch of the New York Free Circulating Library, with a reading-room, and has given 8,000 volumes, half in English and half in German, to the library, together with a considerable sum of money.

AN INTERESTING SURGICAL DEMONSTRATION was given by Dr. William F. Fluhner on Thursday afternoon in the amphitheatre of Bellevue Hospital, a patient being shown upon whom Dr. Fluhner had performed successfully the operation of removing a pistol-ball from the brain through a counter-opening in the skull.

THE UNIVERSITY OF THE CITY OF NEW YORK.—We understand that appointments to clinical lectureships in the medical department have lately been made as follows: Dr. Henry G. Piffard, diseases of the skin; Dr. P. A. Morrow, venereal diseases; and Dr. Newton M. Shaffer, orthopaedic surgery.

THE LONG ISLAND COLLEGE HOSPITAL held its twenty-fifth annual commencement on Wednesday evening, the 21st inst., at the Brooklyn Academy of Music, when the degree of doctor of medicine was conferred on a class of forty-four graduates.

THE AMERICAN NEUROLOGICAL ASSOCIATION will hold its tenth annual meeting in New York on Wednesday, Thursday, and Friday, June 18th, 19th, and 20th. Papers are expected to be read by Dr. Waiton, Dr. Putnam, and Dr. Webber, of Boston, and by Dr. Rockwell and Dr. Seguin, of New York.

THE "MEDICAL BULLETIN," of Philadelphia, is to be published hereafter by F. A. Davis, attorney. The editor, Dr. John V. Shoemaker, remarks that this arrangement will enable him to "give still more attention to the reading columns." During the recent meeting of the Medical Society of the State of Pennsylvania the "Bulletin" was issued daily. "In furnishing this daily edition of a medical journal," says the publisher, "we make the first departure of the kind in the history of Philadelphia and the second in that of the world." The latter statement is erroneous, but the enterprise of the "Bulletin" is to be commended, nevertheless.

DR. KOCH, according to the "British Medical Journal," is shortly to be given a professorship in the University of Berlin.

THE INTERNATIONAL HEALTH EXHIBITION was opened in London on the 8th inst., and, according to the accounts in our English contemporaries, with the greatest promise of being made most useful and successful.

BUBONIC PLAGUE, says the "Lancet," is reported to have appeared at Bedra, in the province of Bagdad, and the Porte has ordered a sanitary cordon to be drawn around the infected district.

A HIPPOCRATIC TREE.—The "Lancet" states that, at a recent meeting of a medical society of Berlin, Professor Virchow showed photographs of a gigantic plane-tree that stands in the market-place of the town of Cos, on the island of that name, under the shade of which, as tradition has it, Hippocrates was in the habit of holding medical consultations. The branches now cover nearly the whole market-place, and are supported by marble columns.

THE INCREASE OF THE INSANE BY IMMIGRATION was made the subject of resolutions at the recent meeting of the Association

of Medical Superintendents of American Asylums for the Insane, in which Congress was asked to take measures to check the increase from that source, amounting, it was said, to one third of all the insanity in the country. The present overcrowded state of the Flatbush asylum is reported to be due to the same cause.

RECENT PARIS THESES.—*Thèses de Paris* dated May 8th are announced in the "Progrès médical" as follows: New Methods of Determining the Elements of Milk and its Falsifications, by M. Quesneville; The Melanuric Bilious Fever observed at Mayotte, by M. Vaudein; A Common Point in the Study of the Etiology of Goitre and in that of Typhoid Fever, by M. Dorey; Epileptics, by M. Campart; Movable Articular Bodies and their Treatment, by M. Herland; Tracheotomy in Tuberculous Subjects, by M. Grégoire; and Considerations on the Etiology and Nosological Affinities of Scoury, by M. Lemarchand. Those dated May 10th are: The Rheumatoid Manifestations of Dysentery, by M. Fialho; and The Chorea of Pregnancy, by M. Hervé.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 11, 1884, to May 17, 1884:*

WATERS, WILLIAM E., Major and Surgeon. Ordered to report for temporary duty to the commanding officer at Plattsburg Barracks, New York. Par. 4, S. O. 90, Headquarters Department of the East, May 10, 1884.

HUBBARD, VAN BUREN, Major and Surgeon. Relieved from further duty at Fort Stanton, New Mexico, and ordered to Fort Bayard, New Mexico, for duty. Par. 3, S. O. 96, Headquarters Department of the Missouri, May 12, 1884.

MOSELEY, E. B., Captain and Assistant Surgeon. Assigned to temporary duty at Vancouver Barracks, Washington Territory. Par. 6, S. O. 59, Headquarters Department of the Columbia, May 8, 1884.

WILCOX, TIMOTHY E., Captain and Assistant Surgeon. Assigned to duty at Washington Barracks, D. C. Par. 2, S. O. 90, Headquarters Department of the East, May 10, 1884.

WALLES, P. G., First Lieutenant and Assistant Surgeon. Assigned to duty at Old Fort Colville, Washington Territory, until further orders. Par. 3, S. O. 58, Headquarters Department of the Columbia, May 7, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending May 17, 1884:*

KINDLEBERGER, D., Medical Inspector. To be Fleet Surgeon of the Pacific Station.

LEACH, PHILIP, Assistant Surgeon. Detached from U. S. S. New Hampshire, and ordered to Naval Hospital, Chelsea.

BERTOLETTE, D. N., Passed Assistant Surgeon. Detached from Naval Academy, and ordered to practice ship Date.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, May 26th:* Medical Society of the County of New York.

Tuesday, May 27th: New York Dermatological Society (private); New York Surgical Society; Medical Societies of the Counties of Queens and Rockland, N. Y.; Jersey City Pathological Society; Oregon State Medical Society (Portland—first day).

Wednesday, May 28th: New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Monroe, N. Y.; Connecticut Medical Society (New Haven—first day); Oregon State Medical Society (second day).

Thursday, May 29th: Connecticut Medical Society (second day); Oregon State Medical Society (third day).

Letters to the Editor.

THE STATE SOCIETY'S COMMITTEE ON LEGISLATION.

NEW YORK, April 17, 1884.

To the Editor of the *New York Medical Journal*:

SIR: Your issue of this date contains a letter from Dr. Sturgis criticising the action of the present Committee on Legislation of the State Society, of which committee he was formerly chairman. The gentleman in question has on numerous occasions urged the committee to do its duty, both through your columns and by means of persistent letter-writing to the members of the committee. The criticism of the present committee by its former chairman is, to say the least, in rather bad taste, and perhaps unwise, as I doubt if he can be fully informed as to just what the committee have done, and what they may have neglected to do. The committee itself is responsible solely to the body that appointed it, and the proper time for a review of its work is when its report is presented at the next meeting of the State society. In this connection, however, it may not be improper to state that no fewer than ten objectionable and injurious medical bills were introduced into the Legislature during the session just ended. Of these, six have been killed outright, and four of them amended in a manner satisfactory to the committee. Two of the foregoing bills were introduced a second time, but did not succeed in passing. The expenses of the committee, which it will ask the State society next year to reimburse, will not exceed \$75. The expenses of the previous Committee on Legislation, of which Dr. Sturgis was chairman, amounted to something over \$1,200, which sum the State society was called upon to pay, the amount being seven hundred dollars in excess of the sum that the society had authorized the committee to expend.

Respectfully yours,

HENRY G. PIFFARD,

Chairman Com. on Legislation Med. Soc. S. N. Y.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 15, 1884.

The Vice-President, Dr. H. T. HANKS, in the chair.

PRACTICAL SUGGESTIONS UPON THE ALIMENTATION OF PATIENTS SUFFERING FROM DYSPHAGIA.—Dr. D. BRYSON DELAVAN read a paper the object of which was to direct attention to the morbid conditions with which dysphagia might be prominently associated, to point out its influence upon the course of such conditions, to discuss certain measures of relief not commonly made use of, and to urge the importance of resorting to such measures for their effect upon the disease, for the prolongation of life, and for the comfort of the patient. The causes of dysphagia were either organic or functional. Among the organic derangements which might lead to dysphagia be mentioned tuberculosis, cancer, syphilis, diphtheria, amygdalitis, and retropharyngeal abscess; among functional causes were spasm from any cause and paralysis. The general indications in treatment were: To secure rest, to avoid pain, to protect the parts from irritation, and to sustain nutrition. The means of administering nourishment were by the rectum and by the mouth, rectal alimentation being specially of service in cases in which, if food

could be carried to the stomach, the stomach nevertheless rebelled. But the chief point which the author wished to make related to the importance and manner of nourishment by means of a simple apparatus for conducting food into the stomach or beyond the point of obstruction in the pharynx or œsophagus. By this means the indications before mentioned would be at once fulfilled; rest would be secured, pain and injury avoided, and nutrition maintained. Dr. Delavan then described a very simple apparatus to be used as a stomach-pump. It consisted of a soda-water bottle, with a rubber cork containing two perforations, into one of which was introduced a small soft-rubber tube, and into the other another like tube, to which was attached the bulb of a Davidson syringe. Pressure upon the bulb would cause the liquid nutriment in the bottle to flow out of the first tube. On the end of this might be attached a suitable instrument for introduction through the stricture—as a No. 9 to a No. 13 catheter. If necessary to be introduced through the nose, a small-sized soft-rubber tube might be used. This apparatus was modeled after that of Dujardin-Beaumetz, but was much simpler and less expensive. The introduction of the catheter was much easier and less uncomfortable to the patient than the introduction of the ordinary stomach-tube, and, with a little experience, the instrument might be employed by the patient himself. Its introduction would be facilitated by dipping it into mucilage and having the patient swallow mucilage. The details of the use of the instrument and the importance of artificial alimentation in the various affections alluded to were considered.

Dr. JOHN C. PETERS said that in some of the acute affections referred to, as ordinary sore throat and diphtheria, it was not necessary to feed and stimulate the patient to the extent that some supposed. He sometimes thought we were going to the opposite extreme of the practice of physicians of olden times who starved their patients, and were now often over-stimulating and over-feeding.

Dr. R. C. BRANDEIS thought there would be some danger in intrusting the patient with the introduction of the tube. It would not always be convenient for the physician to be present as often as it was necessary to administer nourishment, and in those cases it might be found advantageous to leave the tube in permanently, or change it only occasionally. He could not say that he had often met with great difficulty in nourishing patients by the mouth in acute diseases. Concentrated nourishment, especially egg, was suitable to such cases.

Dr. GEORGE L. PEABODY referred to a proposed method which he had not yet had an opportunity to test practically.

Dr. W. C. JARVIS spoke of empty capsules, into which food might be introduced with a syringe and the puncture sealed. The capsules passed down more readily and with less discomfort than liquids.

Dr. DELAVAN closed the discussion.

CHANCER OF THE TONSIL.—Dr. R. W. TAYLOR read a paper on this subject. [See p. 577].

Dr. F. N. OTIS had never seen a case of chancre of the tonsil, but he knew of no reason why the lesion should not occur there as well as elsewhere, since it simply required the contagium and an open channel for infection. The course of the primary syphilitic lesion he thought must be very much the same wherever it occurred, certain allowance being made for the anatomy of the parts; and yet that course was more or less variable, even at the same locality, in different cases, and he thought the same would prove true regarding chancre of the tonsil. He did not think, therefore, that we should always expect to find the symptoms mentioned by Dr. Taylor, and, if we waited for their development in every case before making a diagnosis of chancre of the tonsil, we might fall into error:

For instance, he would not suppose that ulceration would always take place, for it often failed to develop in chancre elsewhere.

Dr. F. R. STURGIS had seen four cases of initial lesion of the tonsil, one being that referred to by the author of the paper as occurring in the boy in Bellevue Hospital. Two of the other patients were women, and the third a man. In all his cases, except one, the inflammatory symptoms had been well marked, and in the excepted case they were all of a subacute kind. Ulceration and enlargement of the tonsil had usually been well marked; deglutition had been difficult and painful. The principal difficulty in diagnosis would be to distinguish between an initial lesion and a gummatous infiltration of the tonsil, but in the latter condition there would not be the peculiar enlargement of the glands which characterized the initial lesion of the tonsil.

Dr. L. D. BULKLEY thought that one of the fortunate things about the paper was that it brought to public attention another possible source of syphilitic infection which otherwise might not be thought of. He then mentioned the case of an unmarried woman, thirty-two years of age, who suffered from difficulty with the tonsils, in which he was finally able to trace an initial lesion of that part to kissing, her betrothed having gumata of the mouth. The dire effects of syphilis had been shown in another instance where a man communicated chancre to the lips of one woman to whom he was paying his attentions, and before marriage courted another whom he inoculated on the tonsil. The man himself was now suffering from the late lesions of the affection in the kidneys.

Dr. JARVIS thought there was less liability to syphilitic infection by the mouth than was generally supposed, for the cavity was constantly bathed with saliva, and the virus had not much opportunity to enter the circulation before being washed away. Reference having been made to gummatous infiltration of the tonsil, he would take occasion to say that the enlargement of the gland from this cause could be diagnosed from ordinary hypertrophy by the fact that it was of a sclerotic nature, and great caution should be used in removing such a tonsil, as hemorrhage was much more likely to be severe than after an operation upon the hypertrophied gland. He had seen the mucous patch on the larynx, and inquired whether it was usually recognized.

Dr. TAYLOR was sorry that Dr. Otis had left before he had an opportunity to reply to his remarks. What *might* occur and what *did* occur were two quite different things in chancre of the tonsil. He had spoken of what had been seen, and not of symptoms which might or might not develop in a hypothetical case with theory for its basis. He did not think it of very much importance to the patient if the diagnosis was not made until toward the second stage. As regarded infiltration of the pharynx, we all recognized that; it might be unilateral or bilateral. As to the cleansing effect of saliva in preventing initial lesion in the mouth, it had not done it in the cases reported.

AMERICAN MEDICAL ASSOCIATION.

SECTION IN MEDICINE.

Dr. JOHN V. SHOEMAKER, of Philadelphia, Chairman.

(Concluded from page 565.)

Session of May 8, 1884.

THE TREATMENT OF DIABETES MELLITUS.—Dr. AUSTIN FLINT, Jr., of New York, read a paper in which he referred to the fact that sugar was occasionally found in the urine of persons apparently healthy. In his experience the proportion had been 1 in every 377 cases. He next called attention to the different

methods of testing for sugar, stating that, if Fehling's solution were used perfectly fresh, there could be no error in the result. He also commended Squibb's test. The specific gravity bore no relation to the proportion of sugar. Sugar might be present in urine of a low specific gravity. He had seen it in urine of a sp. gr. of 1.010. The quantity of urine need not be increased. He considered the liver to be a sugar-producing organ. In health this sugar was washed away by the blood as fast as it was formed. The sugar contained in the food was normally destroyed in the liver. In regard to prognosis, he said that, if the patient would submit to a certain course of treatment as soon as glycosuria was recognized, he thought that it was possible to effect a cure, or at least to remove the most characteristic symptoms, with the exception, perhaps, of the occasional temporary appearance of a small quantity of sugar in the urine. In the treatment, almost sole reliance should be placed on the use of a diet from which starches and sugar had been excluded. This should be carried out absolutely. Systematic daily muscular exercise should be enforced, but fatigue should be scrupulously avoided. All alcoholic excesses and the use of sweet fruits were to be avoided. In cases where the sugar persisted, the use of solution of arsenite of bromine, in doses of three drops three times a day, was often of service in diminishing the amount of sugar and relieving the distressing symptoms of the affection. This might be continued for weeks or months without unpleasant effects. The rigid diet should be continued for at least two months, even in the mildest cases. The return to ordinary diet should be gradual, and the urine should during this time be examined every five or six days.

THE MILK TREATMENT OF DISEASE.—A paper on this subject, by Dr. JAMES TYSON, was read by title.

BRIGHT'S DISEASE OF MALARIAL ORIGIN, by Dr. I. E. ATKINSON, of Maryland, was also read by title.

TUBERCULOSIS.—Dr. HENRY F. FORMAD, of Philadelphia, read a paper on this subject. He regretted having to speak in advance of the publication of the details of the experiments on which the paper was based. The points to which he intended to confine himself were: 1. The question of the contagiousness of pulmonary phthisis and of tuberculosis in general. 2. A brief definition of Koch's position on this question. 3. The objections to Koch's conclusions and to his interpretation of his experiments. The question of contagiousness was one of vast importance. If it were firmly established that tuberculosis was not contagious, the theory of its parasitic origin could not be sustained. He thought there was not the least proof that tuberculosis was ever conveyed by contagion. The apparent exceptions could almost always be explained. There was no analogy between the phenomena of tuberculosis and those of the contagious diseases. He then referred to tuberculosis from traumatism. In pleurisy or peritonitis, tuberculosis might develop if these affections became chronic. In such cases the bacillus was occasionally, if not frequently, absent. His objections were not to Koch's observations, for these he had gone over and confirmed, but to the interpretation that had been given of them. The proof of the etiological relation between the bacillus and tuberculosis was not complete. Again, it had been shown by competent observers that the bacillus was not present in all cases and in all products of tuberculosis, and, if present, that it was often in such small quantities as to have but little significance. As a rule, it was not present in the beginning of the disease. To prove that the bacillus was the cause of tuberculosis, it should be present in every case and in all the products of tuberculosis. It appeared to him that the bacillus was merely the concomitant of cheesy disintegrating material. Where the bacillus had not been found the effects had been attributed to spores. These could not be demonstrated. The miliary nodes

produced in the lungs in inhalation experiments had generally been supposed to be tubercular, but he thought they were more probably little foci of bronchial pneumonia. They could be brushed out with a camel's-hair brush, and the tuberculous lung be converted into a normal lung. Of course, if the matter were left in contact with the tissue for a certain length of time, they might be followed by tubercles, but he was referring to the rapid production of tubercles. It was not safe to reason from experiments on animals as to the effects which would be produced on man. Koch had himself fully recognized this point. The fungus which was poisonous to one animal might have no effect on another. The question was not whether or not the *Bacillus tuberculosus* would produce tuberculous, but whether other substances would not have the same effect. His experiments had shown that other substances would produce tuberculous. This condition had been produced by innocuous substances. Tuberculous could be produced without the presence of the bacillus. From his experiments he had come to the conclusion that neither the parasitic nature of tuberculous nor its contagiousness has been proved, and, further, that the bacillus of Koch was a valuable diagnostic sign of tubercular disease. Nothing had been proved by Koch's discovery as to the etiology of tubercle.

Dr. AUSTIN FLINT, Sr., thought that if tuberculous was an infectious disease, produced by a parasite, its contagiousness would follow as a matter of course. The presence of a parasite had been demonstrated. The great preponderance of evidence was in favor of the view that it was uniformly present in products recognized to be tuberculous. The bacillus was not found in products which from other characters were considered not to be tuberculous. The conclusion he had reached was that there was some essential connection between the presence of this parasite and the tuberculous disease. In regard to the contagiousness and inoculability of tuberculous, he thought that all testimony was in favor of them. Other causes might co-operate, and undoubtedly did co-operate, in the production of tubercle, but the presence of the specific parasite was essential.

Dr. WELCH agreed with Dr. Flint. Dr. FORMAD had spoken of tuberculous produced by inoculation of other substance than the bacillus. If bacilli were the sole cause, the condition could of course be produced in no other way. Koch, in his experiments, had adopted every precaution to prevent error. He had, with better methods of investigation, found the bacillus in every case. When the difficulties of the process required for the detection of the bacillus were considered, it was not at all wonderful that at times it should not be discovered. The essential point of Dr. Formad's question was whether or not tuberculous could be produced by other causes than the bacillus. The weight of evidence was in favor of the view that tuberculous could be produced by the inoculation of no other substance than the *Bacillus tuberculosus*.

The paper was further discussed by Dr. GEORGE M. STERNBERG, of the army, Dr. R. H. FRIZ, of Boston, Dr. TYSON, Dr. JANEWAY, Dr. CHARLES DENISON, of Colorado, Dr. W. T. BELFIELD, of Chicago, Dr. E. O. SHAKESPEARE, of Philadelphia, Dr. G. C. SMYTHE, of Indiana, Dr. H. C. EENST, of Massachusetts, Dr. PEPPER, and Dr. GREEN.

THE TREATMENT OF TYPHOID FEVER.—Dr. I. K. JACKSON, of Norfolk, Va., read a paper in which he contended that the discussion of this subject, though trite and hackneyed, could not be considered as finished until there was a better agreement among physicians as to the treatment of the disease, or until the mortality occasioned by it was much reduced. The object of the paper was to point out a line of treatment suggested by a recognition of some pathological conditions long since known to exist, but which had been ignored in looking for indications for

treatment. That these conditions had been overlooked was shown by the many and conflicting modes of treatment that had at different times been proposed, means not only not called for, but actually injurious. Some of these were enumerated to show that the pathology of the disease could never have suggested them. While all this conflict was being urged, the doctor declared that he had been pursuing one plan of treatment for thirty-five years, from which he had had no reason to deviate, and that it did not contain one of the long list of means to which he had previously referred, and which were generally employed in the treatment of this disease. He was reluctant to state the result of that treatment, but left each one to determine its value for himself. Among the first and most prominent pathological conditions which had attracted the attention of the author were the nitrogenous waste, the diminution of fibrin, the deficiency of urea and of all the nitrogenous excretions. The fact that they were not excreted was no proof that they were retained in the system, for, if they were, there would be signs of uræmic poisoning, which no one professed to have seen. They were not excreted, because there were none to be thrown off. One cause of this nitrogenous deficiency was the inability to digest nitrogenous food, owing to the absence of the digestive fluid, and this could not be secreted because of the congested and inflamed condition of the glands and glandular follicles whose duty it was to secrete these juices. Another possible if not probable cause was the consumption of nitrogen by the parasitic organism which was the acknowledged etiological factor in the production of enteric fever. That the parasite was a nitrogen-feeder was proved by the fact that it lived and thrived in nitrogenous matters, in urea and all nitrogenous excreta. Old logs, rotten wood, and leaf-mold, saturated with these excretions, had been known to be fruitful sources of this fever. If further proof were needed, it was found in the ammoniacal exhalation from a typhoid-fever patient, from his breath, his skin, and his urine. These exhalations were undoubtedly due to the decomposition of the nitrogenous constituents caused by this micro-organism.

This pathological condition furnished the most important indication in the treatment of the disease. As this nitrogenous waste could not be supplied by nitrogenous food, the author knew of no way of accomplishing the object but by the free administration of ammonia, even to saturation. Fortunately, this nitrogenous base furnished us with salts of such different therapeutical powers as to enable us to select any one suited to any stage of the disease and to any condition of the system. We had in the nitrate of that base the most sedative salt that we possessed, and in the carbonate the most stimulating salt of the materia medica. The nitrate of ammonium was capable of reducing the typhoid-fever heat down to 102° F., and of keeping it there. As this was not a dangerous degree, the patient was safe so long as it could be maintained. Ten or twelve grains of the salt every two hours were sufficient for this purpose. As the disease progressed and there was less need for a sedative, or if diarrhoea supervened, the acetate of ammonium was substituted for the nitrate, and acetate of lead and opium were administered at the same time. If nervous symptoms showed themselves, with a failure of the vital powers, the carbonate of ammonium, in combination with potassium chlorate, was resorted to; but, if coma developed, recourse was had to the hydrochlorate of ammonium, generally in five-grain doses, every two hours. The effect of this was magical. The doctor stated that he had never seen coma in a case which had been treated from the beginning with this ammoniacal course, and had only seen it in badly nursed cases, or in those treated by other means. He considered the delirium of typhoid fever to be due to deficient nourishment, a delirium of starvation. It never failed to

become quieted in a few hours after the free administration of ammonia. Wandering sometimes occurred, if the dose was too small or the intervals between were too long. Patients sometimes asked to have the interval shortened on account of a confusion of intellect which appeared when the dose had been postponed too long. For tympanites, turpentine was used, by enema or by the mouth. The pathological condition contended by some to exist in, and to be the cause of, coma was a thickened state of the envelopes of the blood corpuscles, on account of which the brain failed to be nourished, even though the blood contained the normal amount of nourishment. This condition suggested the hydrochlorate of ammonium as a solvent for the thickened envelope; but, whether this was its *modus operandi* or not, its effect was almost miraculous. Thus it would be seen that there was no stage of the disease in which one or other salt of ammonium was not used. Why should cold baths and cold affusions be used when the temperature could be reduced by simpler and safer means, and without the danger of reaction? The author had long since abandoned quinine as not being the proper germicide for the typhoid-fever parasite. It was, however, the antidote *par excellence* for the malarial poison, but, as the typhoid-fever-producing organism differed so essentially from that of malarial fever, it could not be expected that the same agent would destroy both. The parasite of malarial fever was a carbon-feeder, and that highly carbonaceous medicament, quinine, might be expected to be the best agent for destroying it, in accordance with the law (for which he had been contending), viz., that no organism could live in its own excreta, in the results of its life-processes. If carbonic-acid gas was thrown off as the excretory product of a life-process, a saturation with that gas would check the process and destroy the life. If alcohol was the result, then alcohol was the proper agent to destroy the organism causing it. If sulphureted hydrogen was evolved, then the compounds of sulphur were the most efficient means of checking the process. So, then, when ammonia was the excretory product, as in typhoid fever, ammonia, as had been shown, was the most efficient germicide. This furnished us with an additional reason for employing the salts of ammonium, for this nitrogenous base not only supplied the nitrogenous waste, but also destroyed the vitality of the organism which caused it. If this was a law, instead of accounting for the protection of the system against a second attack of contagious zymotic diseases by supposing that it was due to exhaustion of the pabulum necessary for the support of the parasite, why not attribute it to the infusion into the system of some excretory product which forever acted as a poison to the parasitic organism? This was the most probable explanation.

With regard to the periods of this fever: If it was recognized as early as the third day, it might subside at the end of the first week; but, if not recognized before the fourth or fifth day, it could not break before the end of the second week, but might at that time. If the treatment had not been inaugurated before the beginning of the second week, the fever could not be made to yield before the end of the third week. That it would yield then was almost an absolute certainty.

With regard to the diet, nothing was allowed but milk. Farinaeous preparations were never admissible. They could not be digested for want of the fluids containing diastase. There could not be any conversion of amylaceous food into dextrin or grape-sugar, so starchy food could not be assimilated. If administered, it underwent a fermentation which added to the gaseous distension and greatly complicated the case. Animal broths were never allowed until the later stages of the disease, or until there were signs of the secretion of the digestive fluids. In conclusion, the reader said: "The limited time allowed for this paper

has compelled merely an outline of a subject which deserves full discussion. It is left to the profession to test the value of the treatment which has been detailed."

THE SPECIFIC TREATMENT OF DIPHTHERIA AND CROUP.—DR. GEORGE A. LINN, of Monongahela, Pa., read a paper maintaining that corrosive chloride of mercury was a specific in diphtheria, when given in large doses in the early stage of the disease. The mere giving of a remedy did not necessarily constitute its use as a specific. Minute doses of quinine, given two or three times a day, would not be a specific in malarial disease; so in treating diphtheria with bichloride of mercury, the dose, time of giving, and stage of the disease, were conditions necessary to success. It should be given in large doses, one twentieth to one twelfth of a grain to a child, two or three years of age, and one twelfth to one eighth of a grain to an adult every three hours. It was best given in solution. The apothecary should make a solution in alcohol and dispense from this. The best vehicle was the elixir of pepsin, or elixir of pepsin and bismuth, in teaspoonful doses. In mild cases, the remedy should be continued to the end of the third day; in malignant cases, two or three days longer. If the treatment was begun in time, no tonic or sustaining measures were required. But, if the case was well advanced, brandy and iron should be added. If the membrane invaded the wind-pipe, causing croup, there was danger of suffocation from obstruction of the air-passage. This was due more to a spasmodic condition of the glottis than to the presence of membrane, and could be relieved by giving chloride of gold, which was a specific in simple croup. It acted like a charm, was tasteless, and caused no nausea. It should be given in solution in distilled water, the medicine being dropped into a glass and the use of a spoon avoided. The dose for a child two or three years old was from one fiftieth to one thirtieth of a grain every hour until relieved. In diphtheritic croup the bichloride of mercury was to be given in conjunction.

MUSCULAR HYPERTROPHY OF THE STOMACH.—DR. ALEXANDER MARCY, Jr., of Riverton, N. J., related a case of that very rare and interesting disease, occurring in his own practice. It was of pathological rather than of clinical interest. Its distinctive features, as marked at the autopsy, were described as follows: The stomach had undergone marked contraction, measuring in length only 12.5 cm. and in diameter but 3.75 cm. at the pyloric, and 4.35 cm. at the cardiac extremity. The lumen was greatly diminished, and the organ could not have held more than 60 c. c. of fluid. The little finger, pushed into the interior, encountered a stenosis at about the center of the organ, which it could scarcely pass. On opening the stomach, it was seen that this was produced by a narrow fibrous band, on either side of which was a stellate cicatrix. At the pyloric extremity the lumen was almost obliterated, and would scarcely have admitted a goose-quill. The mucous membrane was abnormally smooth, and the stomach-wall very much increased in thickness, measuring toward the pylorus 1.5 cm., and at the greater curvature 1 cm. This same thickening and narrowing had extended into the duodenum until it also involved the ductus communis choledochus, which was completely occluded. Beyond this the intestine rapidly assumed its normal dimensions. Under the microscope the following histological conditions were noted: The mucous membrane was very little altered, and in thickness was about normal. A slight growth of newly formed connective tissue was found among the glands. In the muscularis mucosæ there was a great increase in the amount of muscular fiber, which was mingled with many bundles of connective tissue. The increase of thickness in this coat was seven or eight fold, due almost entirely to the overgrowth of muscular fiber. The muscular element of the stomach was increased about three times in thickness. Here, too, this increase was due to an

hypertrophy of the muscular tissue, although in many places there was an intimate mingling with it of newly formed connective tissue. The fibrous tissue was slightly increased in thickness. The mucous layer was unaltered. The submucous layer had undergone the most peculiar change. In this there was not only found an irregular deposit of the same newly formed, imperfectly fibrillated connective tissue, such as was found elsewhere in the organ, but also an overgrowth of smooth muscular fiber. This fiber was scattered in larger or smaller bundles throughout the submucous layer, in some places exceeding the connective tissue in amount, in others falling short of it. Toward both the muscular wall and the muscularis mucosæ was the greater amount of muscular fiber, indicating, perhaps, that in its growth it had extended from these two tunics. The thickness of this coat was greatly increased, but to what extent could not be exactly determined, on account of the blending of this with the two contiguous tunics, produced by the deposition of newly formed muscular fiber in it. The lumen of the blood-vessels of the submucosa and the thickness of their walls were greater than in the normal stomach. The speaker added that this condition was not generally mentioned by writers on diseases of this organ, and that he believed its occurrence to be very rare. A case described by Thiergelder ("Atlas der pathol. Histol.," 1876, Tafel x, Fig. 1) resembled it somewhat, and Cornil and Ranvier, in their work on general pathology and morbid anatomy, referred to such a condition. It was very apt to be, and very often was, confounded with cirrhosis. There were no symptoms peculiar to this disease, and the treatment could only be palliative.

RETARDATION OF THE PULSE IN MITRAL INSUFFICIENCY. A paper by Dr. A. T. KEYT, of Ohio, was read by title.

THE ÆTIOLOGY OF ENTERIC FEVER, a paper by Dr. S. K. CRAWFORD, of Illinois, was read by title.

The following papers were then read by title: NEW THEORY AND NEW INSTRUMENT OF DIAGNOSIS, by Dr. L. G. AYRES, of Pennsylvania; THE ADVANTAGE OF THE USE OF MASSAGE IN RHEUMATIC GOUT, by Dr. DOUGLAS GRAHAM, of Massachusetts.

After a vote of thanks to the chairman and the secretary the section adjourned.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN.

Dr. T. A. REAMY, of Cincinnati, Chairman.

Tuesday—First Day.

DESPERATE SURGERY AMONG WOMEN.—Dr. R. S. SUTTON, of Pittsburgh, Pa., read a paper entitled "Desperate Surgery among Women; the Proper Field for it; who should and who should not attempt it." The reader referred more particularly to laparotomy, which he thought should not be undertaken without special preparation and special conveniences, such as were offered by private hospitals for diseases of women.

Dr. McLEAN, of Troy, N. Y., Dr. DUNLAP, of Springfield, O., Dr. QUINBY, of New Jersey, and others took part in the discussion. Dr. Dunlap said that, theoretically, the advice given in the paper was proper, but, practically, it was difficult to carry it out.

The section then adjourned until afternoon, out of respect to the memory of Professor Samuel D. Gross, whose death was announced by the chairman.

THE EFFECTS OF TRACHELORRHAPHY.—In the afternoon session, Dr. JOSEPH TABER JOHNSON, of Washington, read a paper in which he considered the question whether the operation was advisable in all cases of laceration of the cervix, as some believed, or only in cases in which symptoms indicated it. The discussion which followed the reading of the paper brought out quite a diversity of opinion on this point.

Wednesday—Second Day.

Dr. THEOPHILUS PARVIN, of Pennsylvania, read a paper on PUERPERAL SEPTICÆMIA.

Dr. J. REEVES JACKSON, of Illinois, read a paper entitled A CONTRIBUTION TO THE RELATIONS OF OVULATION AND MENSTRUATION. The author maintained that there was absolutely no material relation between the ripening or bursting of the ovarian follicle, or ovulation, and the menstrual flow. The paper was discussed by Dr. BATTEY and others.

Dr. WILLIAM H. TAYLOR, of Ohio, read a paper on THE MANAGEMENT OF PROTRACTED LABOR.

Dr. HERBERT CLAIBORNE, of Virginia, read a paper on THE USE OF CHLOROFORM IN LABOR.

Dr. DUNLAP, of Ohio, presented A CLAMP FOR USE IN OVARY-TOMY AND HYSTERECTOMY.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 23, 1884.

GEORGE F. SHRADY, M. D., President, in the chair.

RUPTURE OF A DEGENERATED GLAND INTO THE TRACHEA; DEATH FROM ASPHYXIA.—Dr. W. P. NORTHRUP presented a specimen illustrating general tuberculosis with rupture of an enlarged bronchial gland into the trachea, obstruction of the right bronchus, and death from asphyxia five hours after the accident. The patient was two years and ten months old, an inmate of the New York Foundling Asylum. The child had always been delicate. The nurse stated that five hours before death it was taken with a fit of strangling and cyanosis. She also stated that she withdrew four long white worms from the mouth. When brought into the asylum the patient was moribund, and died within five hours from the attack, the symptoms being those of bronchial obstruction. At the autopsy, cheesy material, which was found to have entered from an enlarged gland through an erosion into the trachea, completely occluded the right bronchus. There were a few tubercular deposits in the other lung, but Dr. Northrup remarked that it was practically sound, and he could hardly understand why death should have taken place from asphyxia.

ENCYSTED EMPYEMA, DOUBLE BRONCHO-PNEUMONIA, AND PERICARDITIS.—Dr. NORTHRUP presented specimens illustrating these pathological conditions, all occurring in one patient.

TUBERCULAR PHthisIS AND TUBERCULAR MENINGITIS.—Dr. NORTHRUP also presented the brain and lungs of a child which had suffered from these affections, and also two lungs, from two different patients, the one the seat of pneumonia with tuberculosis and the other of simple diffuse broncho-pneumonia, and called attention to the fact that it was often almost or quite impossible to distinguish by the gross appearances between the two conditions. A microscopical examination was necessary to make a positive diagnosis.

Regarding the first specimen, Dr. W. M. CARPENTER remarked that the entire right lung becoming suddenly incapacitated from performing its duties was, in his opinion, quite sufficient to account for comparatively sudden death, and he was rather surprised that the child lived even five hours after the occurrence of the accident.

THROMBOSIS OF THE RIGHT VERTEBRAL ARTERY.—Dr. F. FERGUSON presented a specimen and narrated the following history: The patient was twenty-eight years of age, single, admitted to the hospital on the 2d of April. He had always been in good health, except that for five weeks before he had complained of earache and headache. About three weeks ago a slight discharge had taken place from the painful ear, and of

late the headache had been severer. He continued at his work until two days before admission, when he had a severe convulsion and afterward became drowsy; the face was expressionless, the pupils were normal, there was no paralysis, and the reflexes were exaggerated. Examination of the urine disclosed nothing. There was no apparent lesion of the abdominal or thoracic viscera. The patient died on the 20th of April, having had a temperature ranging up to 102°, the pulse varying from about normal to 120. During this time some convulsions occurred, and he lay in a comatose state. There was obstinate constipation. At the autopsy, a few small abscesses were found in one kidney, together with some congestion. The bladder was intensely congested, and there was an abscess of the prostate. The heart was practically normal. The organ of special interest was the brain, in which there was thrombosis of the right vertebral artery at the point of its blending with the left to form the basilar. By pressure upon the left vertebral artery, it cut off to a large extent the vascular supply through that channel. There was considerable blood-pigment in the neighborhood of the lesion, and also hæmorrhage into the lateral ventricle. There was no apparent brain softening.

LARGE MYO-FIBROMATA OF THE UTERUS.—Dr. FERGUSON related the history of the case and presented the specimens, which had been removed post mortem. The patient had been tapped several times for ascites, the accumulation of fluid within the peritoneal cavity having amounted altogether to 1,008 ounces.

VERTEBRÆ ILLUSTRATING THE RESULTS OF THE TREATMENT OF POTT'S DISEASE BY THE PLASTER-OF-PARIS JACKET.—Dr. L. A. SAYRE said the specimen of which he was about to give the history illustrated the excellent results of his method of treating spinal disease by suspension and the plaster-of-Paris jacket, as carried out, not by himself, but by two other physicians. The patient was a native of Ireland. Three years previously he began to suffer from Pott's disease involving several of the dorsal vertebrae, and for eighteen months he was paralyzed in the lower extremities and was unable to get out of bed. He was in several institutions in his native country, but received no benefit from treatment. Dr. L. H. Sayre and Dr. Hobart partially suspended the patient, applied a plaster-of-Paris jacket, whereupon he was immediately relieved, and within a week was able to get out of bed. He wore this jacket constantly for two years and a half, and when another was then applied, the old one was found not to have produced a single abrasion of the skin or to have given any discomfort. The spine was then completely consolidated, the patient was in good health, and up to about the time of his death performed efficient service as an orderly in several hospitals. He finally died from exposure and cold in one of the New York hospitals. A number of the dorsal vertebrae were found to have been involved in the disease, and the seventh, eighth, and ninth were completely fused into one solid mass.

Dr. CARPENTER referred to a case in which the patient at his suggestion consulted Dr. Sayre some years ago. A gentleman, aged fifty, had been a hump-back from his youth, and also had a stiff knee. While he was driving a team with a load of hay into a barn, the hump on his back came in contact with the upper portion of the door-frame, and sustained a severe injury—so severe that he was nearly unconscious—and from that time forward was scarcely able to do any work. Not long afterward he began to have impairment of movement in the lower extremities, which gradually increased, and finally paralysis of motion was complete, and continued so for nearly three years, being accompanied with extreme twitchings of the limbs, so violent that it became necessary to fasten them to the sides of his chair to prevent his being thrown out. At no time was there paralysis of either the bladder or the rectum. The appetite and gen-

eral condition remained good. He finally came to New York, where Dr. Sayre applied partial extension and then put on a plaster-of-Paris jacket. The patient was removed to his room, and on the following morning the paralysis of sensation in the lower extremities became complete. The jacket was immediately removed, and within ten hours sensation had returned. On leaving the city he carried away with him a knowledge of the principle upon which it was desirable for him to be treated, and constructed a set of pulleys by which he was enabled once or twice every day to straighten himself out. He also wore the plaster jacket as much as he could. After a while improvement began, and at the end of six months he was able to walk with the aid of crutches; at the end of a year and a half by the aid of a cane; and at the end of six years, the present time, he could walk as well as before the injury.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of April 25, 1884.

The President, Dr. HENRY BEATES, JR., in the chair.

VESICO-VAGINAL FISTULA, WITH INVERTED BLADDER.—Dr. HANNAH T. CROASDALE reported a case which, she remarked, was perhaps of more than ordinary interest from two circumstances: first, from the enormous size of the opening in the septum, and, secondly, from the fact that from the orifice a bright round body protruded, which was discovered to be the bladder inverted. The patient, aged forty-seven, was admitted to the Woman's Hospital October 11, 1881. She had been married at the age of twenty-five, and had had one child stillborn. The labor was instrumental, and incontinence of urine occurred soon after it, thirty years ago. For this trouble she had never sought relief, and spoke only of her present suffering having begun one year before admission. This suffering had been so intense that she had been obliged to keep her bed for that length of time. The journey from her home had been made on a bed. Her appearance was deplorable. She had constant pain in the lower part of the abdomen, her bowels were constipated, her appetite was poor, and her face anxious, and she was constantly distressed lest the bed or her clothing should be moved and thereby her sufferings be increased. It seemed almost hopeless to expect to do anything for the poor woman's relief, so disturbed was her health from her desperate condition. Nausea and vomiting were almost constantly present. Her pulse on the day following that of her admission was 65, her temperature 99°, and her respiration 26. The quantity of urine passed in twenty-four hours could not be ascertained. The color was pale-yellow, the specific gravity 1.002, the reaction alkaline, and there was a trace of albumin.

After ineffectual attempts, she was finally etherized and thoroughly examined October 29th. The tumor, which was so exquisitely sensitive, was the inverted bladder, and the exposed mucous membrane was greatly inflamed and bled readily on being touched. The openings into both ureters could be distinctly seen. The mass was grasped, and, by gentle taxis, was reduced and retained by the slight support afforded by one of Skene's glass stylets, made to pass through the urethra with the distal extremity resting upon the upper edge of the fistulous opening. A vaginal glass plug was introduced into the vagina to aid in supporting the bladder. The inflamed condition of the parts forbade any further procedure at this time.

On the 30th of November she was again etherized and placed in the lithotomy position, and the edge of the fistula, which was about 5 cm. in diameter, was carefully pared and beveled from the vesical margin, giving a broad surface on the vaginal septum, and twelve sutures of silver were introduced. It was

necessary, before closing the fistula, to liberate adhesive bands at either angle, and then the margins of the opening were closed by the sutures and secured by perforated shot. A self-retaining catheter was introduced, to which was attached a piece of rubber tubing for conveying the urine to the urinal. The patient was then placed in bed, one sixth of a grain of sulphate of morphine was given hypodermically, and she was ordered lime-water and milk every two hours.

The following day there was much vesical tenesmus, which gradually subsided, and nothing especially worthy of note occurred until December 7th, when the sutures were removed. Union was not perfect at either angle, and in the center there was a small orifice which admitted the passage of urine.

January 6th the patient was again etherized; the edges of the three minute openings were freshened, and fine silver-wire sutures were introduced. The central and right openings promptly closed after this second operation, but the left, just at the site of the ureter, admitted the passage of a Snelling's probe. Three subsequent operations, done January 20th, February 3d, and March 28th, failed to close the minute opening. These attempts were always made with a probe carried through the urethra into the opening in the ureter, in order to prevent wounding or closing the latter.

It was now thought best to send the patient home and encourage her coming again in the autumn, as her stay had already been much prolonged beyond the usual time for keeping patients in the hospital, and she was discharged May 8, 1882, quite content on her part with the result of the many operations—six in all. After several months the urine ceased to pass through this opening, probably from the contraction of the cicatricial tissue.

The speaker added that she had not been able to find any record in literature of a bladder inverted through a vesicovaginal fistula.

G. BETTON MASSEY, M. D., *Reporting Secretary.*

Reports on the Progress of Medicine.

SKIN AND VENEREAL DISEASES.

By EDWARD BENNET BRONSON, M.D.

ZOSTER.—Why zoster should, as a rule with few exceptions, attack an individual but once, has always seemed like an insoluble problem. Dr. Paul Gerne ("Concours méd.," Feb. 2, 1884) seeks its solution in a supposed analogy between this disease and the eruptive fevers. He says that both develop, as a rule, but once in the same person; both are attended with prodromal symptoms, such as fever (the fever of zoster, he claims, is too often overlooked), loss of appetite, malaise, etc.; and both occur epidemically. This last point, however, with regard to zoster, is not absolutely decided, but the writer cites, in support of his position, an instance of zoster developing in a mother six days after attacking the infant she was nursing. He would consider zoster as a general constitutional disease with a local manifestation, of a nature similar to diphtheria, which is a general disease with local manifestations in the throat. He would explain the immunity from a second attack upon the same theory that would apply to other eruptive fevers. To those who object that an eruption so circumscribed as zoster, and unattended as it is by any serious general disturbance, could not impress the constitution profoundly enough to confer immunity from a second attack, he would call to mind the effect of vaccination, a mild disorder which manifests itself only at the point of

inoculation without any great constitutional disturbance, and yet protects in most cases against variola or revaccination.

Another contribution to our knowledge of zoster is made by Curschmann and Eisenlohr ("Deutsches Archiv f. klin. Med.," 1844, Bd. 34, Hft. 4), in a report concerning a case of zoster of the arm and forearm. The case was a severe one, arising without apparent cause. In the course of a month from the beginning of the attack a number of small nodules were felt in the affected district, evidently along the cutaneous branches of the axillary and other nerves. Many of these nodules were excised and microscopically examined. The process was found to be a *perineuritis acuta nodosa*, taking origin in blood-vessels of the nerve sheath and peri-neural connective tissue. The nerve substance itself was intact. The result of subsequent post-mortem examination was negative in regard to the spinal ganglia. The writers are disposed to believe that the part played by ganglionic affections in zoster is very much overestimated, and that alterations of the peripheral nerves themselves play a more important rôle in the disease than is generally attributed to them.

AINHUM.—It is singular that this malady of negroes, which consists only in what is apparently a spontaneous amputation of the little toes, should have thus far received no satisfactory explanation. The suspicion expressed by Dr. Duhring in his article on the subject ("Am. Jour. of the Med. Sci.," January, 1884), that the disease is artificially induced, is not a new one, but it is strange, if this be the explanation, that the method employed has never been detected. Occurring as the affection sometimes does in young children, and in individuals of widely separated countries, it is hardly reasonable to suppose that the same deception should be always repeated without a common motive relating to some specific object. It might have its origin in fetishism so common in the negro races, but, were this the case, the fact ought not to be so difficult to ascertain. On the other hand, it is equally difficult to assign the affection to any spontaneous pathological process. Stigmata have been explained as due to reflex action resulting from a profound religious impression upon the sensorium. But the sort of mental impression that could affect a negro's little toes is not easily imagined.

In Duhring's patient the disease had begun at the age of ten years, affecting the little toes of both feet, and the amputation was not complete till some twenty years later. It is stated that the father had lost both toes in a similar way, and that the mother was then suffering from the disease. One of the toes of the first patient was subjected to a microscopic examination, with the result of showing merely evidences of chronic inflammation. Dr. Wile, who conducted the examination, believed that the entire process was due to a disturbance of the circulation, and that the cause of the disturbance was intermittent in its action, "and probably to be found in the application and re-application of a ligature about the toe."

CHRYSAROBIN ADMINISTERED INTERNALLY.—It has long been suspected that the effect of chrysarobin used externally for psoriasis was largely due to absorption of the drug and to its action upon the general economy. The fact that when the remedy had been applied only to a limited portion of the surface the eruption was affected not only there but also over the entire body, was very good evidence of absorption. Most of the attempts, however, that have been made to accomplish the same result by giving the drug by the mouth have failed, owing to the disagreeable effects produced upon the *prima via* when given in such doses as were supposed necessary to efficiency. But a report upon the subject, recently published by Dr. Stocquart ("Annales de dermat. et de syph.," 1884, v), encourages further trial in this direction. This writer employed chrysarobin

bin internally in sixty-one cases of miscellaneous affections, out of which he claims fifty-six cures. The diseases were ecthyma, eczema, impetigo, lichen, pityriasis, prurigo, psoriasis, and urticaria. The dose was, at the beginning, one centigramme (one sixth grain) a day for infants, and three centigrammes for adults. These doses were well borne, and, when the case proved stubborn, the dose was increased. Sometimes the drug disagreed, the most frequent disturbance being in the stomach, and was attended with slight fever and vertigo. But the writer claims that such effects are unnecessary, and, when they occur, the drug should be discontinued for a while. He further reports a series of eleven cases in which the chrysarobin was administered hypodermically. In these cases the cures were effected more rapidly than when the drug was given by the mouth, but with the disadvantage of occasionally causing lancing pains and abscesses. The writer maintains that, when used internally, the remedy acts, by virtue of an elective action, upon the epidermis, the precise nature of which he does not pretend to define.

THE TREATMENT OF LUPUS.—The discovery of the tubercle bacillus in lupus has led Dr. J. Doutrelepoint to make trial of a new plan of treating the disease ("Monatshft. f. prakt. Dermatologie," 1884, iii, 1). He conceived the idea that, by applying a solution of corrosive sublimate directly to the ulcerating lupus surface, the bacilli might be rendered inactive and the disease process checked. His results were better than he anticipated. The strength of the solution he employed was one tenth of one per cent. The mode of application was by means of a many-folded compress ~~wring~~ out in the solution, which was applied to the affected part, covered with rubber tissue, and confined in its place by a bandage. Under this treatment fungous granulations became flatter, the secretion of pus was lessened, the ulcers healed over, the infiltrated, swollen, surrounding skin became paler and softer, and the tubercles, even where there was no ulceration, disappeared. The writer reports three illustrative cases.

RODENT ULCER AND ITS RELATIONS TO EPITHELIOMA.—Dr. G. H. Hume ("Brit. Med. Jour.," January 5, 1884) presents a study of three cases of rodent ulcer, in the course of which he takes issue with Dr. Thin, who has maintained that rodent ulcer originates in the sweat-glands. Dr. Hume says that the changes found in the sweat-glands are those of disintegration and not of morbid growth. In regard to the relation between rodent ulcer and epithelioma, he regards the former as a form of epithelioma which begins in the external root sheath of the follicles and in the sebaceous glands; of the same essential nature, therefore, as epithelioma, but differing from it pathologically in the mode of development of its cell growth, as it differs from it clinically in the absence of gland infection and in its slight general malignancy. These clinical differences, he maintains, may be found in the character of the cell growth in the two diseases. In epithelioma there is a marked tendency to an unrestrained cell-infiltration of surrounding tissues, so that infection of the lymphatic system readily occurs. The cell growth of rodent ulcer, on the other hand, is in the form of isolated masses, which, originating in the follicles and sebaceous glands, are, at least for some time, restrained by the firm fibrous sheaths of these structures. The tendency of these masses is to cause, by pressure on the tissues, a persistent ulceration in which they, as well as the tissues, perish. But because this local destruction takes place rapidly, and because of the absence of cell-wandering, lymphatic infection is not prone to occur.

MULTIPLE CUTANEOUS ULCERATION.—Dr. I. E. Atkinson ("Am. Jour. of the Med. Sci.," January, 1884) reports the following interesting case: The patient was a child twenty-eight months old. All poisoning from mercury, ergot, or other medication was excluded by the history. The symptoms were as follows: First papulation and vesiculation followed by a very

superficial destruction of the epidermic structures and most external dermal tissues. This was followed, more or less rapidly, by ulceration of a progressive character, destroying in a very short time muscles, fibrous tissue, cartilage, and even bone. The process was one of rapidly progressive molecular gangrene. The ulceration showed a tendency to affect similar parts of corresponding members and regions. The face and extremities were specially affected. There was no paralysis, but some bluntness of sensation. The child became greatly emaciated under the disease, and an obstinate diarrhoea set in; but finally the patient completely recovered, though with disfiguring scars. Dr. Atkinson believes this case to be allied to the "multiple caecothic gangrene" of Simon, regarding it as a form of trophoneurosis.

THE HYPODERMIC USE OF CALOMEL IN SYPHILIS.—This method of treating syphilis, which was first introduced by Professor Scarenzio, of Pavia, is described and warmly advocated by Dr. Julien in a recent article ("Annales de dermatologie et de syphilis," 1884, v). The method, though when first proposed it received considerable attention, has lately been almost entirely neglected, mainly on account of the troublesome abscesses which frequently resulted from it. Julien, however, maintains that, when properly used, it is superior in its effects to the treatment by injections of the bichloride. Ten to fifteen centigrammes of calomel are added to five centigrammes of gum arabic dissolved in one gramme of distilled water. Of this, ten centigrammes are injected at a time, by means of a Pravaz's syringe provided with a needle that should measure at least three centimetres. The backs of the arms and the buttocks are regarded as the best places to inject, and the injection should be made into the subcutaneous tissue rather than into the muscles. After the injection, the patient is required to remain quiet for several days. This treatment, it is claimed, is well borne by infants, the doses varying from three to six centigrammes, according to age. In most cases of adults, an aggregate of about forty centigrammes was sufficient to cause the disappearance of all manifestations of the disease; that is, four injections of ten centigrammes each. The usual procedure was to make two injections at one sitting—one in the right, the other in the left buttock, and three weeks later the same was repeated.

HEREDITARY SYPHILIS.—In a long and exhaustive article, Dr. M. Kassowitz ("Jahrbuch f. Kinderheilk.," 1884, xxi, Hft. 1 and 2) reasserts his former positions with regard to inherited syphilis. His main propositions are as follows: 1. The direct infection of the fetus from the father can be placed among the best constituted of scientific facts. 2. The few observations of the infection of the mother through a syphilitic fetus, the mother showing well-marked secondary symptoms, are not sufficiently clear or authentic to establish the occurrence of such infection upon a thoroughly scientific basis. 3. The theory that such infection of the mother exhibits itself through tertiary symptoms or syphilitic cachexia alone is not substantiated. 4. The syphilitic poison, in the great majority of cases of feti infected by the father, is arrested at the partition walls of the foetal and maternal circulations, and does not pass through, in spite of the active interchange of the nutritive fluids continued through many months. 5. That part of both organisms which constitute the partition walls in some way affords a high degree of immunity against syphilitic infection.

INJECTIONS OF HOT WATER FOR GONORRHOEA.—There is a law of limitations in therapeutics as well as in human happiness, according to which it is always possible to have too much of a good thing. Water is a good thing therapeutically, though one may drown in it. So is hot water; but Dr. Keyes has shown, none to soon, that it may do harm to the urethra. Quite a stir was made recently by an article in the "Medical Record"

recommending an abortive treatment of gonorrhœa by frequent injections of hot water. It seemed reasonable, and many tried it. Like all new remedies, it met with considerable success. In a disease of which at the start no one can say whether it will end as a *petite échauffement* in two or three days, or run a virulent course of six weeks or more, it is not strange if some good results should be recorded, and still less so when we consider that the mild or abortive urethritides greatly outnumber the cases of genuine virulent gonorrhœa. Keyes relates seven carefully observed cases in which the treatment was pursued, but with results decidedly discouraging to its enthusiastic advocates. In one case the effects produced were worse than indifferent (as in most of the cases)—indeed, were such as to characterize the method as a dangerous measure. The consequence in this case was severe cystitis with prostatitis, which confined the patient to his bed for many weeks. In two or three of the other cases the symptoms were distinctly aggravated by the injections. ("Jour. of Cutan. and Ven. Dis.," March, 1884.)

TUBERCULAR PERI-URETHRITIS.—Dr. Englisch ("Med. Jahrbuch," 1883, Hft. 3 and 4) has been led by experience to believe that all diseases of the urinary and sexual organs in tuberculous subjects run a course peculiar to themselves. He believes that peri-urethritis occurring in those who are tuberculous differs from the same as occurring in non-tuberculous subjects sufficiently to warrant the above title. It may arise from the same causes as does the ordinary form, but is rarely traumatic. The disease generally takes its origin in an inflammation of the urethra proper. But a urethral discharge in these individuals is more apt to be the expression of the tuberculous diathesis than of an infection from a gonorrhœa. Such cases of urethritis are distinguished by their chronicity and by their mild character. After the discharge has lasted a long time, a swelling is developed in the perineum, which may remain unaltered for a long time, till at last it breaks. The skin over the swelling is not reddened, the subcutaneous tissues are not infiltrated nor hard, and the swelling is never tender. The border is well defined and developing on one side; it does not tend to go beyond the median line. It increases in size slowly, and may occasion some difficulty in urination. Generally it is unaccompanied by fever. When ulceration does not occur, the tumor will slowly undergo absorption, perhaps lasting for years. If it should break down, the rim of the opening is thin, but the walls of the abscess are found to increase in thickness rapidly toward the circumference. The pus discharged is small in amount and thin. The abscess is generally very slow in healing, and constitutional measures are always necessary to assist the local treatment.

Miscellany.

THERAPEUTICAL NOTES.—*Aluminium in the Treatment of Phthisis.*—The "Lancet" quotes from an article in the "Pharmaceutical Journal" in which Dr. Pick affirms that aluminium and its compounds constitute most effective remedies against pulmonary tuberculosis, as shown by experiments on rabbits and by clinical observations. In one case, where infiltration of the apices of the lungs had occurred, removal of the lesion and a disappearance of all the symptoms are said to have followed the administration of the metal in the following form:

Metallic aluminium.....	80 grammes;
hydrate of aluminium.....	50 "
carbonate of calcium.....	50 "
gum tragacanth.....	4 s.

Divide into sixty pills. One to be taken three times a day.

The Bromides in the Treatment of a Neurotic Diarrhœa of Children.—At a recent meeting of the Harveian Society, of London, a report of which we find in the "Medical Times," of London, Dr. Lees called attention to a class of cases, not very uncommon in children, in which the main symptom was an irresistible impulse to defecation, experienced almost immediately after taking food. Colic pain might or might not be present, but there was no sensation of weight at epigastrium, heart-burn, flatulence, or other symptom of dyspepsia. The motions were usually semi-solid, not often watery or slimy, and frequently contained undigested food. Usually a motion was passed almost immediately after every meal, and perhaps once or twice more during the twenty-four hours. Dr. Lees pointed out that these symptoms were evidently due to a hyper-peristalsis of the alimentary canal, without increase of secretion, the two factors of ordinary diarrhœa being here disassociated. Such increase of peristalsis was probably due to irritation of the vagus nerve, which supplies the excitator fibers to the intestine, the splanchnics conveying the inhibitory fibers. The proximity of the nucleus of the vagus to that of the trigemini, in the medulla, indicated the possibility that this increased excitability of the intestine might in part be due to dental irritation, the cases in question usually occurring during the period of the second dentition. Believing in the purely neurotic origin of the symptoms, Dr. Lees had treated several cases with bromide of potassium simply, without opium or any astringent, and had obtained immediate success, even in cases which had persisted for several months. The diarrhœa was usually arrested in a few days, and occasionally the children became so costive that the medicine had to be discontinued. Four cases were narrated, also a similar case occurring in an adult, in all of which speedy relief was given by the bromide. In conclusion it was remarked that individuals who suffered from these symptoms were often of a markedly neurotic temperament, timid, and easily frightened.

Benzoate of Sodium in the Summer Diarrhœa of Infants.—The "Bulletin général de thérapeutique" quotes from the "Gazzetta degli Ospitali" a summary of an article, by Dr. R. Guaita, that originally appeared in the "Rivista Italiana di Terapia ed Igiene," in which the summer diarrhœa of infants is considered as a zymotic disease produced by a special microbion introduced from without or developed during intestinal digestion, dietetic errors, defective hygiene, and excessive heat being the predisposing causes. On this theory, Kapusinsky and Zilewicz employed benzoate of sodium for the vomiting and diarrhœa of infants, but in conjunction with subnitrate of bismuth. Guaita has made use of the benzoate alone in fifty-three cases of children between six months and two years of age, in thirty-five of which the affection had lasted from twenty-four to thirty hours, and in the eighteen others from six to fourteen days. In the first category, a cure resulted in every instance within forty-eight hours; in the second, after an average period of twenty-one days. Not a single death occurred. After a purgative (calomel or jalap), the author gives from four to six grammes of the benzoate, in one hundred grammes of water, in the course of twenty-four hours, and continues the treatment for two days. On the third day, a gentle purgative is given (magnesia or manna), and the use of the benzoate is resumed. At the end of two days more, improvement in the passages is constantly observed—they are no longer fetid, and the vomiting ceases. During the treatment, the diet is strictly regulated, and the child drinks nothing but lemonade and a few teaspoonfuls of wine; milk and broths are absolutely proscribed, but nurslings are given the breast not more than four times in the twenty-four hours. Other drugs may be given to meet special indications.

Naphthalin as a Remedy for Diarrhœa.—At the recent meeting of the German Kongress für innere Medizin ("Deutsche Medizinische Zeitung," April 28, 1884), Dr. Rossbach, of Jena, reviewed the usual indications followed in the treatment of diarrhœa, dividing the drugs employed into four groups: calomel and castor-oil to get rid of irritating and decomposing fecal masses; opium to allay exaggerated peristalsis; astringents to diminish the swelling of the mucous membrane and give consistence to the feces; and alkaline waters to stimulate the portal circulation. In view of the conversion of calomel into corrosive sublimate in the intestinal canal, attention had lately been directed to the probability that the drug acted by virtue of the antiseptic properties of

the latter substance, but it was impracticable to introduce enough of it to make sure of the result without the danger of poisoning the system. Naphthalin, he remarked, possessed the same antiseptic property, while it could be given in doses of five grammes a day, for weeks together, without any bad effect—indeed, in those amounts, it increased the appetite in many instances. He had found it of benefit in inveterate cases of catarrh of both the small and the large intestine, with and without ulceration, provided there were no incurable organic disease, like carcinoma, at the bottom of the trouble. He had not tried it in the diarrhoea of tuberculosis or in that of typhoid fever. The usual daily dose was five centigrammes. The disagreeable odor of the drug could be overcome by a little oil of bergamot.

THE COLLEGE OF PHYSICIANS AND SURGEONS.—The following is a list of the honor-men at the recent commencement: J. H. Bradshaw, of New Jersey; A. Brothers, S.B., of New York; B. B. Gallaudet, A.B., of New York; L. W. Hotchkiss, A.B., of New York; G. S. Huntington, A.B., of Connecticut; G. R. Lockwood, Jr., A.B., of New York; E. K. Morton, of New Jersey; A. B. Pope, of Georgia; H. J. Schiff, of New York; and J. C. Stewart, B.S., of New York. The Harsen prizes were awarded as follows: The first, of \$150, to G. S. Huntington, A.B., of Connecticut; the second, of \$75, to L. S. Manson, of New York; the third, of \$25, to G. W. Weld, D.D.S., of New York. The first prize for proficiency at examination, \$500, was awarded to G. S. Huntington, A.B., of Connecticut; the second, \$300, to G. R. Lockwood, Jr., A.B., of New York; the third, \$200, to E. K. Morton, of New Jersey. The alumni prize of \$500, which, as we stated last week, was awarded to Dr. M. Allen Starr, was for an essay entitled "The Central Nervous System."

THE MEDICAL COLLEGE OF VIRGINIA.—The Board of Visitors announce that they will hold an adjourned meeting in the college building on Friday, June 6th, to elect professors of obstetrics, practice of medicine, anatomy, and materia medica and therapeutics.

THE NEW YORK CANCER HOSPITAL.—At the ceremony of laying the corner-stone of the hospital building, Dr. W. H. Draper delivered an address. The board of consulting physicians consists of Dr. Fordyce Barker, Dr. T. Gaillard Thomas, Dr. John T. Metcalfe, Dr. Thomas M. Mackoe, and Dr. Thomas Addis Emmet. In the list of trustees we notice the names of Dr. William T. Bull, Dr. Clement Cleveland, Dr. James B. Hunter, Dr. Francis P. Kinnicut, and Dr. George L. Peabody.

THE SECTION IN STATE MEDICINE OF THE AMERICAN MEDICAL ASSOCIATION.—Dr. Deering J. Roberts, of Nashville, Tenn., the chairman of the section, informs us that, at the recent meeting of the association, it was he that brought up the resolutions urging Congress to provide for the Museum of Hygiene, and likewise Dr. Pratt's resolutions relating to defective immigrants, and that he did not move to table the latter, as was stated in our report of the meeting, in which, we regret to observe, Dr. Roberts was spoken of as "Dr. Robertson" and as "Dr. Robinson." Dr. Roberts also wishes it understood that he seconded Dr. von Klein's resolutions relating to medical education. In his address as chairman of the section, Dr. Roberts first considered the subject of medical education, and took the ground that it was not a matter for legislative control, through State boards of health or otherwise, and that, if medical education, or the profession, was to be elevated, advanced, or regulated, in the American Medical Association alone could it be accomplished. He advocated the establishment of a Department of Health, with a chief a member of the President's Cabinet, recommended by him and confirmed by the Senate, with the position and powers of the other cabinet officers. He attributed the failure of the National Board of Health to enlist the confidence which it required, and which the subject deserved, to the defective and cumbersome form of its organization, and expressed the opinion that, if it had been constituted like the other departments of the Government, it would have had a vigorous life.

JÜRGENSEN ON PNEUMONIA.—The "Lancet" thus condenses a report of Jürgensen's remarks, made in a debate on pneumonia at the German Medical Congress, from the "Berliner klinische Wochenschrift":

"Dr. Jürgensen (Tübingen) opened a debate upon genuine pneumo-

nia, remarking that not long since it was thought that the study of pneumonia was closed. It was considered as established that its cause was exposure to cold, its nature a local inflammation, its issue a crisis, and its treatment antiphlogosis, especially venesection. Laennec and Skoda by their research in physical examination, Rokitsansky by his anatomical studies, and Dietl in his opposition to venesection, led the way in a conversion of opinion. Gradually another conception of the disease arose—viz., that in croupous pneumonia we had to do not with a local but with a general disease, which is mainly, but not solely, localized in the lungs. This conception must now be further extended to the admission that it is an infective disease. Ten years ago it was difficult to establish this; but modern experimental pathology has come to its support, so that the old contention of cold being the sole cause of pneumonia bids fair to disappear, and Dr. Jürgensen did not believe that more than four per cent. of the cases could now be assigned to this cause. It has also been shown, contrary to former notions, that the weakly are more liable to be attacked than the strong; that most cases occur between the ages of one and fourteen, and that those above the age of forty-five are twice as numerous as those between fourteen and forty-four years. As to atmospheric influences, it had been proved, at least in Tübingen, that scanty rainfall increases and heavy rains hinder the development of the disease. From his experience he had traced a parallelism between pneumonia and enteric fever as regards their relation to the humidity of the soil. A further analogy between these diseases is to be found in the influence exerted on them by insanitary dwellings. He referred to Emmerich's discovery at Munich of the pneumonia micrococcus beneath the floors of a barrack, where the disease had much prevailed, and considered that much light had been cast in this direction on the pathogeny of the disease, as well as on its treatment. Whether pneumonia was contagious could not be stated with certainty. Dr. Flint was disposed to think so; but in so widely spread a disease more direct evidence of its transference was required, since cases of supposed contagion might be referred to exposure to similar insanitary surroundings. Was the pneumonic virus single or multiple? The answer to this question might be found in the study of the 'pneumonia coccus' and the results of its inoculation in animals. Clinically, the unity of the disease would seem to be established, and the occurrence of a typical case was not opposed to this any more than it was in the case of the specific fevers. It seemed likely that the virus circulates in the blood, and is especially prone to settle in the lungs and pleura; but under certain conditions it may manifest itself in other regions also. Nauwerck (Tübingen) had found in thirteen cases of pneumonia the 'cocci' of Friedländer in the kidneys, and Jürgensen, in one case marked by cerebral symptoms, found them in the brain. Clinically he would group all cases into those (1) of general infection, (2) with cardiac lesion, and (3) with pulmonary lesion predominating, although in the last instance the heart always suffers. Treatment then should be prophylactic, especially in improving the sanitary condition of the dwelling. Iodine had been strongly recommended as aborting the disease, but Jürgensen was not able to confirm this. Beyond such attempts to arrest the disease at its onset, treatment must be symptomatic; and numerous views were held as to the most appropriate means, all recognizing the importance of maintaining the force of the heart. Antipyretic measures were the best, for they also fulfilled this latter condition. In conclusion, he summed up his thesis as follows: 1. Cold is rarely an exciting cause of pulmonary inflammation. 2. Strong individuals are less frequently attacked than the weakly. 3. Antiphlogosis in the old sense must be rejected."

A HYDROPHOBIA STORY SPOILED.—A somewhat harrowing story has been going the rounds of the British journals of a man's having been bitten by a panther in India, and having died of hydrophobia after his return to England, with the usual accessory of "barking." The man's medical attendant now writes to the "Lancet," however, that the injury, which was an ugly one, consisting of a fracture of the radius and a number of lacerated wounds, had been wholly recovered from, save a stiffness of the elbow, and that the poor fellow was considering whether or not he should enter a London hospital, for the purpose of having the adhesions broken up, when he contracted a pneumonia, in the course of which he became delirious and died.

Original Communications.

THE ARCHITECTURE OF THE SPINAL CORD, AND ITS RELATIONS TO MEDICINE.

By AMBROSE L. RANNEY, M. D.,

PROFESSOR OF APPLIED ANATOMY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

(Continued from page 353.)

THE BLOOD-VESSELS OF THE CORD.

The tissue of the spinal cord is peculiarly rich in blood-vessels. The arteries enter from the pia mater and accompany the processes which that membrane sends into the substance of the cord. They subdivide after entering the cord and form a net-work of capillaries both in the gray and white substance. Since the vertebral arteries give off branches that form the anterior and posterior spinal arteries which run continuously from the foramen magnum to the conus terminalis, and since the intercostal and lumbar arteries anastomose freely with the anterior and posterior spinal vessels, *counter-irritation over the spines of the vertebrae* causes a direct effect upon the vascular supply of the cord itself as well as upon the meninges.

The intercostal and lumbar arteries enter the vertebral canal, by means of the intervertebral foramina, in company with the nerve-roots.

The capillaries of the cord empty into two venous trunks that run in the gray commissure of the cord on either side of the central canal for its entire length (Fig. 5), and also into a large vein that accompanies the anterior spinal artery for the entire length of the cord, lying in the anterior median fissure. In the posterior median fissure a similar vein may be traced for the entire length of the cord, although it increases in size from the upper to the lower spinal segments. The veins within the spinal gray matter anastomose with the external veins already described by horizontal branches; and these, again, join with each other, and also with the large venous plexuses that lie in the fatty tissue outside of the dura and with the external vertebral veins.

THE VERTEBRÆ AS GUIDES TO THE SPINAL SEGMENTS.

By sharp friction over the spinal column, the tips of the spinous processes can be made very apparent as well-defined red spots. They can then be readily counted.

It is desirable often to know what part of the vertebral column corresponds to the level of origin of each pair of spinal nerves. The spines of the vertebrae can be felt even in fat subjects, and thus guides may be had in each individual to locate the levels of the various spinal segments. To do this with accuracy, however, is rendered somewhat difficult (1) by the fact that the spinal nerves do not escape from the foramina between the pedicles of the vertebrae at the same level at which they arise from the spinal cord, and (2) because the tips of the spinous processes do not correspond to the bodies of the corresponding vertebrae in all parts of the spinal column.

The spinal nerves escape from the cervical foramina nearly on a level with their origin from the cord, but the obliquity of the nerves increases steadily in the dorsal and lumbar regions, so that the lowest nerves that constitute the cauda equina have a very long course before they escape from the foramina of the lumbar region and the sacrum.

Gowers gives the following deductions as aids to determine the situation of the bodies of the vertebrae during life: "The tips of the cervical spines correspond nearly to the lower borders of the corresponding vertebrae. Each of the three upper dorsal spines corresponds nearly to the upper border of the body of the vertebra below. From the fourth to the eighth dorsal, each spine corresponds to the middle of the vertebra below. The ninth, tenth, and eleventh spines slope less, and their tips again correspond to the upper borders of the next vertebrae, while the rest of the spines are opposite the bodies of their own vertebrae." Fig. 7 will make these statements apparent.

With these guides to the bodies of the vertebrae, it now becomes necessary to consider the relations of the spines to the origins of the spinal nerves. In the cervical region, the first three spines correspond to the origins of the third, fourth, and fifth cervical nerves; the sixth cervical spine corresponds to the origin of the eighth cervical nerve, and the intervals between the fourth and fifth spines, and the fifth and sixth, correspond to the origins of the sixth and seventh cervical nerves respectively.

In the dorsal region, the seventh cervical spine usually corresponds to the origin of the first dorsal nerve; the first dorsal spine to the third dorsal nerve; the second spine to the fourth nerve; the third spine to the fifth nerve; the fourth spine to the sixth nerve; and so on down to the tenth spine, which lies opposite the twelfth nerve. It may therefore be given as a rule that *the dorsal spines lie opposite the level of the origin of the nerve that escapes from the spinal canal two vertebrae lower down.*

The lumbar and sacral nerves all arise within a space that corresponds to the interval between the eleventh dorsal spine and the first lumbar spine. The course of each nerve within the spinal canal from the first lumbar to the coccygeal nerves, therefore, becomes longer than the preceding ones as they are given off from the cord.

The excellent cut devised by Gowers, which is here introduced, will enable the reader to more easily follow the preceding text. It shows in a diagrammatic way the varying relations between the bodies of the vertebrae, the origins of spinal nerves, and the tips of the vertebral spines. It must be always remembered that the spinal nerves are named from the *situation of the foramen* through which they escape from the canal of the vertebral column, and that the name of the nerve must never be construed as indicating the level of its point of origin. Thus, for example, the sacral nerves escape into the cavity of the pelvis, but they arise in the lumbar region. If we seek to locate spinal lesions that tend to create symptoms referable to special nerves, we must first know the *level of origin* of the nerves that exhibit evidences of impairment, as a result of the spinal lesion. The cut of

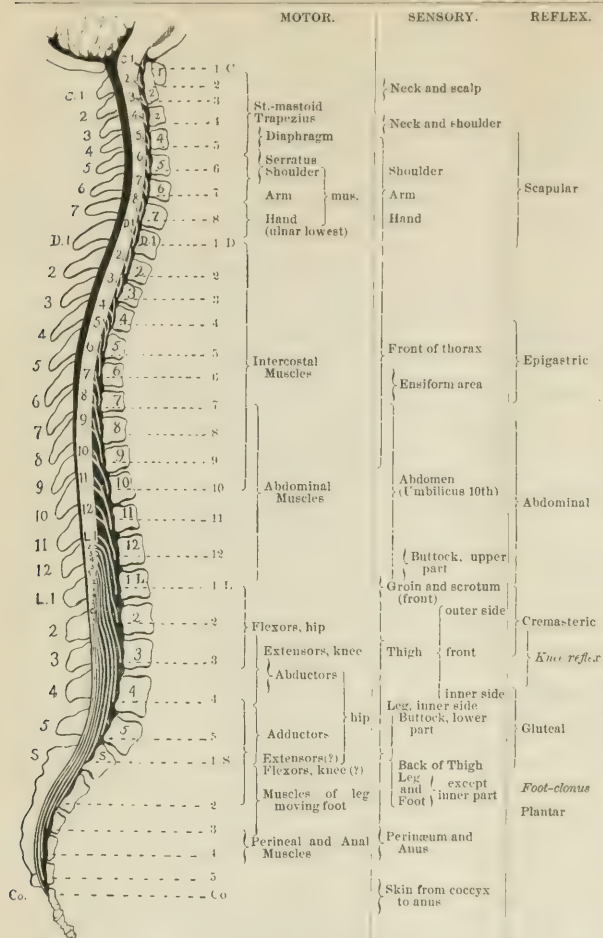


FIG. 7.—A DIAGRAM DESIGNED TO SHOW THE RELATIONS OF THE VERTEBRE TO THE SPINAL SEGMENTS, AND OF THE SPINAL NERVES TO THE MOTOR, SENSORY, AND REFLEX FUNCTIONS OF THE SPINAL CORD (GOWERS).

Gowers (Fig. 7) will also make the distribution of the spinal nerves apparent.

THE MINUTE STRUCTURE OF THE CORD.

The nerve fibers, nerve cells, and connective tissue of the cord have been already referred to in a general way, but a few histological statements respecting them will not be out of place.

THE NERVE FIBERS.—Schwann's sheath has not yet been satisfactorily demonstrated as investing any of the fibers of the cord, and it may be said that, as far as our present knowledge goes, all are destitute of it. Both medullated and non-medullated fibers exist in the cord. The former are found in great abundance in the white substance and the white commissure, and also in the gray matter; the latter are not detected in the white matter or the white com-

missure. The medullated fibers vary in size. In the anterior columns they are very large; in the columns of Goll they are much smaller; in the gray matter they are still finer. The axis-cylinder, as well as the medullary sheath of the fiber, may be discerned in cross-sections of all.

The non-medullary fibers of the cord appear as naked axis-cylinders, without any medullary sheath. They exist only in the gray substance, and form a fine and close network of fibers, in which ganglion cells are imbedded. The fine medullated fibers of the gray matter form, however, the preponderant element.

In the so-called white substance of the cord three varieties of fibers may be demonstrated:

1. The *longitudinal strands* or bundles, which constitute the bulk of the conducting tracts to and from the brain or between the different spinal segments.

2. The *oblique fibers*, that are interlaced with those of the preceding set, and are relatively few in number. These are probably fibers of termination of the posterior nerve roots.

The column of Burdach is traversed by many of the bundles of fibers derived from the posterior nerve roots.

3. The *horizontal fibers*, that are chiefly detected in the white commissure and in the region of the anterior nerve roots.

THE GANGLION CELLS.—These are the most striking feature of the gray matter. They vary (1) in size, according to their situation, and (2) in the presence or absence of the peculiar process known as the "axis-cylinder process," which differs from the others in being unbranched, and in tending to increase in size as it departs from the body of the cell. They have no cell-membrane; their nucleus is large; a glistening nucleolus exists; and pigment granules are usually present in abundance in the protoplasmic mass. Some cells, that are destitute of the so-called "axis-cylinder process," unite with the nerve fibers, according to Gerlach, by means of a fine network of nerves.

The cells of the anterior horns are the largest, and have many processes; those of the vesicular column of Clarke are next in point of size, and nearly round; and those of the posterior horns are the smallest, and are spindle-shaped. The well-defined groups, which are characteristic of the anterior horns, are not found in the posterior horns. Some attractive theories have been advanced respecting the individual functions of the various forms of cells found within the cord. The motor function of the large cells of the anterior horns seems to be well established; but that a special form of cell may be designated as sensory, another as vaso-

motor in function, and a third as trophic, seems improbable and visionary.

A middle horn of gray matter is described by some authors as arising from the external portion of the gray mass between the two horns commonly described. It is also called the "intermediary lateral tract." In close relation to this tract the reticular processes (process of Lenhossek) is discerned. It consists of a matrix of neuroglia and an interrupting net-work of fibers.

Ross describes a collection of cells in the cervical region that develop their processes after birth (in which respect they differ from other groups) and which are of large size. He draws the inference, from their situation and late development, that they are chiefly concerned in the complex movements of the hand and fingers, or of the corresponding fore-limbs of animals.

The *gray matter of the cord* differs from that of the brain in respect to its distribution, as it is confined exclusively to its central portion. In the brain the larger proportion of gray matter is distributed upon its exterior (cerebral and cerebellar cortex).

THE NEUROGLIA.—A basement substance of connective-tissue elements is found within the cord, in the meshes of which the nerve cells, the nerve fibers, and the vessels are enveloped. It serves to give support to these structures and firmness to the cord as a whole. It springs from the pia mater, by numerous septa that enter the cord and form channels for the blood-vessels. These septa divide and subdivide to form the delicate net-work in which the nervous elements are imbedded. The researches of Boll appear to show that the chief histological element of the neuroglia is a multipolar connective-tissue cell, whose processes are unbranched. They are often described as the "spider-cells" of Jastrowitz, and as Deiter's cells. Their nuclei correspond to what Henle described as "granules" of the cord. These cells are found abundantly in the white matter, especially in pathological specimens. The neuroglia is probably the chief factor in the formation of the so-called "gelatinous substance" of the gray matter (Fig. 5).

The regions of the cord in which the neuroglia is most apparent are proportionately destitute of nerve cells. These regions include (1) the periphery of the cord; (2) the borders of the fissures; (3) the circumferential area around the central canal, and to the mesial side of the head of the posterior horns (the *substantia gelatinosa*).

The preponderance of connective tissue in the posterior horns, in contrast to that of the anterior horns, helps us to interpret the frequent occurrence of inflammatory affections in the posterior portions of the cord.

The *substantia gelatinosa* is darker in color than the rest of the connective-tissue formation of the cord. For this reason it was formerly classed as a part of the gray substance. In the cervical and dorsal regions of the cord it presents an oval outline in all cross-sections, but in the lumbar region it becomes more circular. The tubercle of Rolando may be considered as an extension of this column upward into the substance of the medulla.

APPEARANCE OF A TRANSVERSE SECTION OF THE SPINAL CORD.

The arrangement of the gray and white substance of the spinal cord is seen only on a transverse section. In order to properly appreciate the special points in the construction of these two portions, several transverse sections must be made at different heights in the cord, since the relative proportion of the gray and white substance differs in the cervical, dorsal, and lumbar regions. The regions usually selected for these transverse sections are the upper cervical portion, the center of the cervical enlargement, the center of the dorsal region, the lumbar enlargement, and the terminal portion of the cord. In the cervical region the white substance is the most abundant. In the dorsal region the gray matter is relatively smaller than at any other point. In the lumbar enlargement the gray matter is the most extensively developed.

When we view the appearance of the spinal cord on transverse section, we perceive that the gray matter is arranged in the same general way in all of its segments. This has been compared to the capital letter "H," because its two lateral halves are connected together by a transverse band, "the transverse commissure of the gray substance." Each lateral half of the gray substance is *crescentic* in form, presenting an anterior and a posterior projection, termed the *anterior* and *posterior horns*. The former of these is broad and blunted, and does not reach the surface of the cord. The latter is thinner and more pointed, and approaches the exterior surface of the cord near the point of attachment of the posterior roots of the spinal nerves.

The *anterior horns* are much larger than the posterior in the cervical region, but less so in the dorsal and lumbar. They contain the so-called "motor-cells."

The *posterior horns* are also studded with nerve-cells, but they are smaller and more spindle-shaped than the motor cells. The posterior horns are very large in the lumbar enlargement of the cord (see Figs. 8 and 13).

The *motor cells* are commonly multipolar. One of these poles is slender and unbranched, and tends to increase in size as it passes from the body of the cell. It is known as the "*axis-cylinder process*" (Deiter's). In favorable sections of the cord it can be traced into the anterior root of a spinal nerve. It probably becomes continuous with the axis-cylinder of a motor nerve-fiber. The other poles of the cell divide into branches as soon as they leave the body of the cell and terminate in a delicate net-work of nerve-fibrils (network of Gerlach) which exists in the spinal gray matter. The motor cells are distributed in well-defined groups, whose situation changes somewhat in different regions of the cord. These are shown in the admirable drawings of Gerlach and Erb (Figs. 5 and 8).

The admirable diagram of Erb (Fig. 8) illustrates the differences in shape of the horns of the spinal gray matter in the cervical and lumbar regions of the cord, and also the arrangement of the motor cells of the anterior horns into groups that are specially named. It will be seen by reference to the diagram that the so-called "median," "antero-lateral," and "postero-lateral" groups of cells change their relations to each other at different levels of the cord.

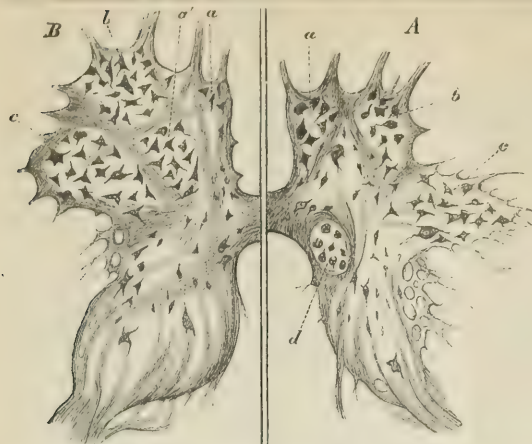


FIG. 8.—SEMI-DIAGRAMMATIC TRANSVERSE SECTION OF THE GRAY SUBSTANCE OF THE CERVICAL (A) AND LUMBAR ENLARGEMENTS (B) OF THE SPINAL CORD. (Erb.)

A. *a*, median group of cells; *b*, antero-lateral group; *c*, postero-lateral group; *d*, vesicular column of Clarke. B. *a*, median group; *a'*, group that appears first in the lumbar region, possibly belonging to *a*; *b*, antero-lateral group; *c*, postero-lateral group. Note that the cells are few and scattered in the posterior horns, and also that the shape of both horns differs markedly in A and B.

Their relative size also varies at different levels. It will be again observed that the vesicular column (*column of Clarke*) is very well defined in the cervical region and is wanting in the lumbar region.

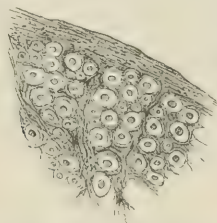


FIG. 9.—A PIECE OF THE WHITE SUBSTANCE OF THE SPINAL CORD, AS SEEN ON TRANSVERSE SECTION HIGHLY MAGNIFIED. (Erb.)

Note that the nerve-fibers cut across present their axis-cylinders toward the plane of the section, and that Deiter's cells are apparent. The latter belong to the connective tissue (neuroglia) of the cord, but present polar prolongations, like the nerve-cells.

(To be continued.)

ON THE PREVENTION AND TREATMENT OF PUERPERAL FEVER

FROM AN ETIOLOGICAL STANDPOINT.

By W. D. SCHUYLER, M. D.

THE points presented in the following considerations were partly suggested by hearing Dr. T. Gaillard Thomas's paper on the "Prevention and Treatment of Puerperal Fever," read by him before the New York Academy of Medicine, December 6, 1883, and partly by what has been offered in discussions and in papers subsequently upon the same subject.

In the first place, I was struck with the views promulgated so forcibly by Dr. Thomas in two particulars—namely, (*a*) with reference to his belief concerning the character of the puerperal, inflammatory, febrile affections—their *oneness*; and (*b*) with reference to his teaching concerning the danger or *great liability* of the puerperal woman in general, in private practice especially, to contract those maladies.

And, in the second place, I have been equally struck with the fact that—in subsequent contributions upon this most important topic in the discussions and papers alluded to, with a few notable exceptions, there has not appeared a demur or dissent to Dr. Thomas's views upon those points. Hence I conclude they must meet with very general acceptance.

Such views, however, being at variance with my own convictions, and what, from my observations of general practice, I conclude is the basis of the clinical action of most practitioners, I am led, therefore, to examine the question of their soundness by a study of the maladies in question from an etiological standpoint.

It is worthy of remark that the title of Dr. Thomas's paper, which has provoked so much, we may trust, profitable discussion, as forming the basis for a study of the puerperal maladies, is admirably chosen. And, for the purpose of illustrating the utility of *preventive medicine*, of late a favorite theme, no other class of diseases could have better been selected, as, if our ideas of the causation of these maladies are correct, their prevention comes particularly, almost wholly, within the scope of the physician himself.

To be prepared, however, to prevent the occurrence of a disease, we must entertain clear, well-defined, and correct notions of its character, and especially of the causes and laws of its development. A scientific, reasonable, and adequate method of prevention must be induced from, and rest upon, a correct interpretation of etiological facts.

It is, then, on account of the *especial bearing* of the subject upon the important matter of *prevention*, its rational application as well as successful accomplishment, that I shall proceed to examine etiotogically, first, the question whether, in the various manifestations of the puerperal maladies, we have essentially but one disease to consider—namely, whether, according to Dr. Thomas, "*puerperal fever is puerperal septicæmia*;" or whether, in the maladies these names represent, there are two affections—distinct in origin and in characteristics—to recognize, anticipate, and guard against.

Second, I shall examine the question of the liability of the puerperal woman in general to contract puerperal fever.

Third, I shall endeavor to define the indications for the rational prevention of puerperal fever and of puerperal septicæmia.

Fourth, I shall offer some suggestions relative to the treatment of these maladies, including a presentation of the indications for intra-uterine and vaginal injections, making reference to what I consider the best manner of giving

them and the best instruments to be used for that purpose.

And, lastly, I shall criticise the value of morphine as a therapeutic means in these fevers, and endeavor to point out the indications, limiting and otherwise, for its use.

In regard to the character of the puerperal febrile maladies, it is needless to say more than that there are two views entertained. On the one hand, there are those who hold, with Dr. Thomas, that puerperal fever is puerperal septicæmia, while, on the other, there are those who believe that the two names just mentioned represent two distinct forms of puerperal febrile expression, due to two widely differing causes.

In examining the first theory, as Dr. Thomas states its claims succinctly and in decided terms, we may profitably follow his plausible argument. He says: "My observations have led me to adopt the views of those who believe that puerperal fever is puerperal septicæmia." "It matters not," he goes on to say, "whether it assume the form of metritis, phlebitis, cellulitis, peritonitis, or lymphangitis, the essence of the disease is a poison which is absorbed into the blood through some solution of continuity, and which, in the appropriate soil of the puerperal condition, fructifies and produces the result known in its *ensemble* of pathological phenomena as *puerperal fever*."

And, as more clearly defining his meaning of the term "puerperal fever," he refers to the ætiology of that disease as it is set forth by Lusk ("Midwifery," p. 608), when he quotes: "It has now passed beyond the domain of dispute that puerperal fever is an infectious disease, due, as a rule, to the septic inoculation of the wounds which result from the separation of the decidua and the passage of the child through the genital tract in the act of parturition."

In setting forth the local conditions which favor the development of puerperal fever from a septic standpoint, Dr. Thomas describes the predisposing condition of the womb forty-eight hours after delivery substantially as follows: "The uterus is large; . . . the whole endometrium, covered by the grayish, sloughy-looking decidua vera, presents all over its surface an unhealthy, unclean, and diphtheritic look." . . . "The large placental site is seen raw and irregular"; "the odor of the uterine cavity is disagreeable"; "dislodging substances, mingling with the pinkish fluid which pours like an unhealthy sweat from the placental site, constitute what is called the cleansing or lochial discharge"; rents and lacerations are found throughout the generative tract. In consequence of these injuries and of absorption through them of the lochial discharge already mentioned, "the cervix is swollen and œdematous." Furthermore, he goes on to say: "In every case of child-bearing the endometrium is thus incumbered, and freed by a process of exfoliation and sloughing; in every case the cervix, vaginal mucous membrane, perineum, and vulva are, in varying degrees, lacerated; and in every case the offensive fluid called lochia poisons these freshly made, unprotected wounds." As illustrating the poisonous character of the lochia, and their competency to excite general septic action through the wounds described, he says: "Were we to take some of the lochial discharge from the vagina, after the

atmosphere has acted upon it, and apply it to an abraded surface on the finger, its irritating character would soon become evidenced by a burning sensation in the part, a smarting extending up the hand, and on the next day signs of a slight local inflammation, with a little lymphangitis, would be noticed."

Thus here we have the elements of the pathogenesis of "puerperal septicæmia, which is puerperal fever," fully and clearly set forth, and this view he confirms by a later statement, a quotation, that "puerperal fever is indeed nothing else than the infecting of fresh wounds—such as are found in every newly delivered woman—with these destructive septic materials."

These declarations leave no doubt, but clearly set forth a recognition of but one malady, which is puerperal fever or puerperal septicæmia (whichever we may choose to designate it); that this malady has an infectious character, and is generated by the septic, putrescent inoculation of the wounds which result in the genital tract from parturition.

In other words, and conversely, puerperal fever does not result except it occurs from the absorption of a septic material through a traumatic lesion.

Consistently with this ætiological theory for the puerperal febrile maladies—if I understand him—Dr. Thomas believes that every puerperal woman, wherever she may be, however she may be environed, is greatly prone to the genesis of a septic putrescent state, and therefore she is extremely liable to an attack of *puerperal fever*. This is evident from his reference to the various conditions "of the puerperal woman, which render her a prey to so many and dangerous disorders which spring up as a consequence of utero-gestation and of parturition"—namely, to her blood state—"its excess of fibrin, buffy coat when drawn by the lancet, from which two liabilities arise: First, a tendency in such blood to form thromboses in the heart and the blood-vessels, and, second, a tendency to prove a most prolific ground for the development of sepsis and zymosis"; to her greater danger from the action of the poisons of "measles, scarlatina, and varioloid, which give no very bad prognosis when they excite zymosis in the blood of the non-pregnant woman, but commonly produce death when they act upon the blood of pregnancy"; to its condition from accumulated urinary poisons which "excite convulsions"; to the condition of her nervous system, "which is in a plus state of sensitiveness and excitability, and influences which are very controllable in the non-puerperal state produce very evil results here"; to the hypertrophic condition of the uterus and its appendages, histologically and in general; and is further evident from his reference to "*prophylactic measures, which (stated in italics) he says should be adopted in all midwifery cases, whether they occur in hospital or in private practice*." Enough has been quoted—though more might be, strengthening what has been given—to elucidate Dr. Thomas's view, and the views of those who agree with him, that there is but one form of puerperal fever; that that malady results from the septic, putrescent inoculation of wounds, and that *all puerperal women are subject to it*.

The question is, Is this teaching correct? does it accord with the facts and evidence of experience? I think not.

While I can take no positive exception to the language, in a broad sense, that "puerperal fever is puerperal septicæmia"—not being able to say that in the progress and steps of the morbid anatomy of puerperal fever there may not be a stage of putrescent development and its results, while, on the other hand, we must all admit that in puerperal septicæmia there is puerperal fever as a feature of its pathological ensemble—while I can take no exception to the subsequent statement that these puerperal diseases do result from the absorption of a poison through the predisposed mucous membrane of the generative tract; while I can not deny that the progress and results of the actions set up are similar; while I recognize, on the other hand, that these maladies present the same general pathological characteristics—nevertheless, I think that in these febrile expressions we have two distinct diseases to deal with, especially when we consider them preventively.

My observations lead me to entertain the belief that the puerperal woman is subject (1) to the effects of a special contagium whose action—which is *zymotic rather than septic*—is upon and through her predisposed generative tract, and which attacks her irrespectively of whether such tract has or has not been lacerated or abraded, as a result of parturition; which contagion sets up in her what may be termed—especially on account of its contagious and specific character, and categorically at least—*puerperal fever*; and (2) that she is also liable to the development of a post-parturient fever, symptomatic, from the absorption of septic materials, and which absorption—not a contagion—is the primary step in the morbid action which follows; which malady, on account of the nature of its genesis, may appropriately or logically be termed *puerperal septicæmia*. I admit that for either of these results the *exciting cause is a poison*, and, in either, the ensemble of pathological phenomena includes a local action—inflammatory or simply absorbent—and general febrile symptoms. But, in puerperal septicæmia, predisposing states are more adynamic, and hence its early general symptoms are more diffuse and asthenic than are corresponding symptoms in puerperal fever. Again, in puerperal septicæmia results develop more directly through the blood and circulation by simple absorption of septic matter, while the poison of puerperal fever enters the system through an excited inflammatory lesion—which the reception and action (zymotic) of the contagium gives rise to, setting up febrile effects (which are essential) by its depressant and irritative action upon the nervous and nutritive functions.

The distinguishing characteristics of these poisons are: First, the poison of *puerperal fever* is a *specific or semi-specific contagium*; it communicates itself from one puerperal woman to another who may have been confined in the same locality, and within certain limits of area; and it may be communicated to another who is at a distance by a third person, and especially by the doctor. It is *endemic*. When the disease has existed in a room—varying in degree with the degree of saturation which has been accomplished—it will remain therein a certain time, and will communicate itself to a woman who may be confined in the same apartment for a varying period of

time. It particularly has dwelt in lying-in hospital wards. Its poison is heterogenous, or attacks the woman from without, and is never idiopathic; and all puerperal women who are exposed to its contagium are liable to its attack, without regard to existing intra-uterine or vaginal conditions other than that they shall be puerperal.

On the other hand, the poison of *puerperal septicæmia* is not contagious, it is not infectious, is never endemic; it is strictly idiopathic, its genesis depending upon the blood and nutritive states of the woman, upon atonic post-parturient uterine contractions, upon retained decomposing placenta or secundines, or upon abnormal and septic conditions of the lochia, and upon the absorption of septic matter from one or all of these sources through the denuded or lacerated mucous membrane of the generative tract. While the poison of puerperal fever attacks the woman from without, puerperal septicæmia (febrile) can, and generally does, develop irrespective of external causes.

Whether the contagium of puerperal fever is specific—in the sense that the poison of small-pox, of scarlatina, of measles is—is doubtful; but that it resembles the poison of surgical erysipelas, of typhoid fever, of cerebro-spinal meningitis, and is specific in the sense that the contagia of these maladies are, is quite probable. That it is a semi-malarial product, and may be developed *de novo*, I shall offer some evidence in support of later on. And that such development is hastened in the presence of surgical erysipelas, or in an atmosphere tainted with cadaveric emanations, is most plausible.

While the action of this poison, however, is not specific in the sense that it sets up a limited *cyclical*, pathological process, yet, inasmuch as it originates a characteristic contagious disease (though it can be developed anew), it may be regarded, at least and therefore, as semi-specific.

On the other hand, the action which generates puerperal septicæmia is in no sense specific; yet, without doubt, septic conditions are influenced in puerperæ by causes similar to those enumerated above: by the presence of erysipelatous or cadaveric poisons, by malaria, or by any influence which depresses vital action.

Upon no other ground of hypothesis than that of a recognition of a diverse ætiology for puerperal fever, on the one hand, and for puerperal septicæmia on the other—of a semi-specific contagium for the former, and a more general but idiopathic causation for the latter—can we explain the occurrence of those cases which develop endemically in certain localities or habitats, and especially in lying-in wards of general hospitals, by contagion, and, outside of these, the occurrence of sporadic puerperal septicæmia, idiopathic, which the general practitioner is occasionally called upon to meet.

As still further emphasizing an important point of difference in the character of the causes of these post-parturient febrile maladies, I may once more and especially refer to the fact that *all women confined within the area of influence of the poison of contagious puerperal fever are liable to an attack of the disease, notwithstanding in every such case the womb has been thoroughly emptied of its contents, the products of gestation, or whether the hand has or has not been in-*

troduced to remove adherent placenta, or whether post-parturient uterine contractions have or have not been tonically induced and sustained at the end of the third stage of labor, or whether lacerations of the generative tract have or have not occurred; while for the parturient woman in general, who is outside of or beyond the influence of such endemic region, contrary, in my opinion, to the teaching of Dr. Thomas's paper, no such fearful predisposition exists, even though her post-parturient, utero-genital condition favors the development of morbid processes.

It is well to observe, while considering the puerperal pathological results with a view of determining their essential natures and as a precaution against misleading evidence, that there is one important point to be borne in mind, which is, that we should not omit to make due distinction between the primary action, or initial lesion, and subsequent actions, processes, and lesions which develop as consequences. In either puerperal fever or puerperal septicæmia the metritis, lymphangitis, phlebitis, cellulitis, peritonitis, general fever, and blood-poisoning which form the successive manifestations of the pathological whole, are the results merely, or the sequela, of such a primary action.

As the resulting symptoms and course in either case are, macroscopically considered, very similar, as the actions involve the same structures in both maladies, it is most natural to conclude they are one and the same disease; while, if we consider the primary action only, or in conjunction with its ætiological conditions, we shall find the diseases quite dissimilar.

Upon no other method of reasoning than that of regarding the metritis, phlebitis, etc., as results, can their occurrence, more particularly the order of their development, be so rationally explained. And, while phlebitis, lymphangitis, and multiple abscess constitute the order and are primary sequela to septicæmia, vulvitis, colpitis, endometritis, metritis, etc., represent the order of the morbid progress in puerperal fever.

The primary action in puerperal fever is inflammatory, either catarrhal or diphtheritic (see Dr. Garrigues's report of the morbid anatomy of the puerperal fever cases in Maternity Hospital, "Medical Record," December 29, 1883), while in puerperal septicæmia it is evident it is simply absorbent.

The validity of the inference of an initial action, which is local primarily, in both diseases, is apparent from the almost immediate results of local aseptic treatment. According to Dr. Thomas and Dr. Hunter (discussion of Dr. Thomas's paper, New York Academy of Medicine, December 6, 1883), and my own experience since 1875, when I first practiced it with successful results, this treatment immediately checks the morbid action and, if properly applied, hastens a speedy convalescence, which, if thus early produced, is not followed by sequela. I hold that, if the action were not yet (primarily) limited, superficial convalescence would not speedily supervene, and sequela would not be prevented.

By recognizing two distinct forms of the puerperal febrile maladies, one heterogenous, propagated by a developed specific contagion, the other having its pathogenesis

in idiopathic conditions and non-contagious (both arising from infection, however, through the generative mucous tract), in either or both of which the morbid action is primarily superficial and local—if such pathological data are correct, as I shall maintain—we thereby simplify our conceptions of the requirements of necessary preventive indications.

As bearing upon the question of preventive treatment for these maladies, and particularly as having reference to the reasonable as well as necessary indications for such treatment; furthermore, as influencing our judgment relative to the character or nature of the maladies we are discussing, it is necessary to clearly determine the predisposition of the puerperal woman in general to an attack of these maladies—either of puerperal fever or puerperal septicæmia. As a matter of fact, while it is safe to carry out the prophylactic measures advocated by Dr. Thomas in every case to which one is called, "both in hospital and in private practice," while it is equally safe to treat every woman "who is about to bring forth as one about to go through the perils of a capital operation"; yet if facts and experience show that such measures are not *always* necessary—that the indications for such measures are not of ordinary occurrence, but are, on the contrary, most unusual—then, in view of the impossibility of being able to put them into practice in a large percentage of cases, from lack of time, means, or concurrence on the part of others, or on the part of the patient herself, their adoption *in every case as a necessity* is both irrational and unscientific.

Rational and scientific preventive measures (*and such only will be generally adopted*, and therefore only can work valuable results) must have their indications in correct data, both as to the degree as well as the character or gravity of the dangers to be avoided.

The question of first importance in this connection, then, is relative to the predisposition of the puerperal woman in general to contract these maladies. Is the puerpera, as met with in general private practice, sufficiently predisposed to contract either puerperal fever or puerperal septicæmia, to constitute a reasonable or obligatory cause to the physician for the adoption of elaborate and especial preventive measures against such danger?

I can not believe with Dr. Thomas that the puerperal state as such, and in itself uninfluenced by contagious causes, renders the woman an easy prey to so many and dangerous disorders. That hyperinosis is a characteristic of the blood of the parturient woman is generally understood; but that such state, combined with a tendency of the blood to form a buffy coat when drawn by the lancet, is a cause for the "formation of thromboses in the heart, or proves a prolific ground for the development of sepsis and zymosis" in her, is, in my opinion, not sustained by evidence derived from common experience.

Though the statement may be trite, yet I must declare that I have confined too many women in the midst of surroundings where conditions were anything but hygienic, without untoward consequences, and with normal convalescence, to warrant me in any other conclusion than that the parturient state *is not especially* prone to take on either

zymotic or septic conditions, or to develop special inflammatory and febrile states. That "the nervous system of the parturient woman is in a plus state of sensitiveness and excitability, and that the influences which are very controllable in the non-puerperal state may produce very evil results in her," as stated by Dr. Thomas, is true in some respects; that an accumulation of urinary poisons in her blood may produce convulsions, and that untoward moral influences may produce violent mania (also probably traceable to some degree of uremia), are points only too often illustrated, but that these conditions especially predispose her to develop puerperal fever, has not yet been causatively shown.

And that the parturient female is not always or more seriously affected from the action of measles, scarlatina, or varioloid than the non-parturient, and especially that one of these complicating diseases may occur and not excite or generate puerperal fever in her, I have the notes of a case which came under my charge to testify:

In this case the woman was confined by a midwife. She had, according to the history, a prolonged, hard labor, and, with delivery, suffered a complete laceration of the perineum. The evening after her delivery she felt very well; the following morning headache occurred, the lochia became scanty and almost ceased, and a general malaise with vomiting was experienced. The morning of the third day the patient noticed an eruption on her arms and a great itching of the reddened surface. The evening of this day I saw her for the first time. Her body was covered with a dark-red rash, which faded upon pressure, but quickly returned. Wales readily developed upon its surface. Her face was only deeply suffused; the tongue presented the characteristic strawberry, brownish-red appearance. Her throat was sore, the tonsils and mucous membrane were swollen, grayish patches were over the tonsils. Her water was dark and scanty. She experienced much malaise, was thirsty, her pulse was 140, and her temperature was 104°. For two days thereafter her condition did not greatly change, but on the morning of the sixth day her symptoms abated, her pulse was 120, and her temperature was 99.5°. Her mind, which had wandered slightly, was normal, the tongue was moist and lighter in color, the eruption was fading over the chest, and evidently she was convalescing. During this time there were no other uterine symptoms except diminished lochia. On the ninth day desquamation began, and was markedly abundant for the week following. On this day also (the ninth) the pulse stood 100, temperature 98.5°.

On the tenth day her bowels were loose; pulse and temperature same. Eleventh day, eight o'clock A. M., pulse 104, temperature 100°. Twelfth day, pulse 100, temperature natural. Thirteenth day, pulse 120, temperature 103°; had pain in the calves of the legs. Fourteenth day, pulse 116, temperature 99.5°; discovered an erysipelatous inflammation had developed upon the posterior surface of the lower third of the left leg, that quickly caused a diffused abscess at the point first attacked, which broke and discharged, but not freely. The erysipelatous action quickly extended to the whole of the posterior surface of the leg; the knee was much affected, but, the inflammation being held in check, it did not develop pus at that point. I have to state that this patient had scarcely any nursing, that which she received being given by her husband, who, to keep his place and earn the necessary means to provide for her wants, was obliged to leave her alone thirteen hours out of every twenty-four; and that, from lack of the necessary attention and of a carefully

provided diet, from loneliness and the necessary care as to cleanliness, and lying in a low, dark, and small room, her condition was almost hopeless. So on the sixteenth day I made an effort to have her removed to a hospital, where she might have better care. However, having an erysipelatous inflammation, she could not be admitted to Roosevelt Hospital; and, having been in the country but six months, and therefore an enigrant, she could not be taken at Bellevue. It being deemed hazardous to send her to the Island Emigrant Hospital, it was decided to try to keep her where she was.

On cod-liver-oil emulsion and moderate doses of quinine, the patient appeared to mend. On the twenty-first day her pulse was, however, still 120, temperature 100°. On the twenty-third day, pulse 84, temperature natural. Her appetite was very good and bowels moving regularly. From long and continuous lying upon a hard straw mattress, on the twenty-fifth day it was discovered that a bed-sore had developed over the sacrum, of which she had before given no indication. From this out her strength and appetite failed; the pulse varied between 100 and 120 per minute, the temperature remaining at about 100°. On the thirty-second day the temperature was 101°. On the thirty-third day it was 100°, and the patient was then removed to St. Luke's Hospital, where she lingered on several days and died.

At no time in the course of this sickness were there manifest symptoms of trouble in the generative tract. Although speculum examinations were not made, yet palpation and deep pressure were practiced daily, always with negative results.

I submit that this case of difficult parturition, of extensive perineal laceration, of subsequent scarlatina, followed by erysipelatous inflammation and a developed bed-sore, of inefficient nursing, of inadequate nutrition, helplessness, loneliness, and filth, in which, as evidenced by the temperature given, there was no puerperal fever, but in which, possibly, not, however, from any morbid action or results in the generative tract, but most likely from the erysipelatous abscess and from the bed-sore, septicæmia developed, shows, so far as one well-marked case can, (1) that the parturient state is not particularly prone to take on those endometrial inflammatory processes which excite puerperal fever on the one hand, or to develop a generative septic condition which excites puerperal septicæmia on the other; (2) that something more than scarlatina, and erysipelas added, is required to generate puerperal fever, and that even these poisonous maladies, acting in a puerpera, who has in addition a lacerated perineum, are not always adequate to set up a septic or zymotic condition in the generative tract, or do not always cause puerperal septicæmia. Lastly, the case shows that scarlatina does not always cause death when it acts upon the blood of pregnancy.

Again, while the uterus at term comprises an enormous development of blood-vessels and lymphatics as a part of its functionally hypertrophic state, as illustrated by sketches exhibited by Dr. Thomas, yet I hold that this condition of the generative organ does not especially predispose to a dangerous degree of absorption, and hence does not particularly conduce to the development of puerperal fever, or even puerperal septicæmia. And I hold that this negative result is due to the fact that the post-parturient, tonic contractions of the womb which so compress the functionally developed organs that absorption from their open mouths can not occur. And, as a further result of com-

pression from uterine muscular contraction, such a degree of endometrial anæmia is caused as leads to a more or less rapid fatty degeneration, especially of the hypertrophied elements, and hence to the more complete and early cessation of their function. It is quite probable that it is by this action, early compression of the vessels and lymphatics (which is also the safeguard against post-partum hæmorrhage), that we can account for the protection from absorption and septic poisoning by decomposing clots, and by breaking down retained placenta, which often remain in the womb or vagina until they become putrid and most offensive, thought without causing serious injury. If it were not for this protection, the lochial discharge, which is sometimes very irritating, acting upon the system through the many lacerations over which it must pass, would, more frequently than such result happens, set up septic trouble.

I would also add, concerning the teaching that the lochia are in themselves very poisonous and a prolific cause for the development of sepsis and zymosis, that the statements made relative to the many lacerations which are caused in the course of the generative tract, considering that these lacerations must be bathed for some days in the cleansings, and the relative infrequency of septicæmia from this cause—both in a lying-in and in private practice—constitute its ample disproval.

From the foregoing considerations I would submit the opinion that in general the generative tract of the parturient woman, as she is met with under normal conditions, in private practice, is not especially predisposed to take on septic or zymotic degenerative action; and, therefore, under normal conditions, and where she has not been exposed to the contagium of puerperal fever, the parturient act (being a natural function) does not jeopardize the woman, and does not offer indications for an unusual, elaborate, or dread-inspiring institution of preventive measures.

(To be continued.)

A CONTRIBUTION TO THE STUDY OF CONGENITAL SYPHILIS.*

By JOHN N. MACKENZIE, M. D., BALTIMORE,
SURGEON TO THE BALTIMORE EYE, EAR, AND THROAT CHARITY HOSPITAL.

I HAVE selected the case, whose essential features are given below, from my note-book, not only on account of its peculiar interest, but also to serve as the text for some remarks on the manifestations of congenital syphilis in the throat, and their behavior under the influence of acute disease.

Agnes C., aged eight, the child of syphilitic parents, was brought to the London Hospital for Diseases of the Throat and Chest in the latter part of September, 1879. Her history was as follows: Healthy at birth. When five weeks old, lost power in the right upper extremity. This lasted for five weeks, during which time she had no control over the limb. When eight weeks old, contracted a diarrhœa which lasted uninterruptedly for nine months. With the diarrhœa, round, irregular, elevated patches of a red color appeared on the back and buttocks, which were associated later on with an eruption around the anus and genitals.

* Read before the American Laryngological Association, May 12, 1884.

These lesions disappeared some months afterward with an attack of measles. When an infant, would cry out in the night, clinch her thumbs, and burrow her head in the pillow.

From her first to her third year, an interval of perfect health. At the age of three, inflammation, with a cloudy condition of the right eye, appeared, followed in two weeks by implication of the left. The eyes remained inflamed for two years. (The patient's letter from the Royal Ophthalmic Hospital states the condition to have been keratitis.) At the expiration of this time both upper eyelids became completely paralyzed, so that she had no power over them whatever. She could lift them up with her fingers, and frequently did so; but the muscular control of the lids was gone. There was no inflammation of the eyes beyond some remains of the keratitis at the time, and their exposure to light gave rise to no irritation. The mother noticed nothing wrong about the eyeballs during this period. With the ptosis the child complained of intense occipital cephalalgia; convulsive movements occurred during sleep, during which she would contract her brows and rub her head with her hands, leading the mother to suspect trouble with the brain. These symptoms lasted for over a month, at the end of which time, together with the paralytic condition of the lids, they completely disappeared. (During this period she was under intelligent medical supervision, but I am unable to discover what treatment was adopted.)

When they had passed away, the mother noticed for the first time that the right eyeball was turned inward toward the nose, and that she had become deaf in the right ear, from which there issued a slight but constant discharge. Shortly afterward a little white spot appeared on the left tonsil, which slowly ulcerated, the ulceration involving the whole of the back portion of the throat. At the same time she complained of great difficulty in deglutition and pain in the bones, the cervical glands became enlarged, she spoke in a nasal tone of voice, and had a profuse discharge from the nose. During the period of sore throat there was suppurration of the right lachrymal sac, which opened, and continued to discharge for eighteen months. The left sac then became inflamed, suppurated, and ruptured spontaneously, and the discharge has been gradually diminishing in quantity since. The ulceration of the throat healed slowly; would constantly break out afresh; in fact, it never completely cicatrized.

In August, 1879, the child became suddenly aphonic from exposure to cold, and, in the latter part of September, was brought to the hospital suffering from dysphagia and dyspnœa of several weeks' duration.

Condition on Application at the Clinic.—Large head, prominent frontal eminences; cloudy cornea, opacity of the right lens; right internal strabismus; marked flattening of the nasal bones and prominence of the lower jaw; the remains of a dacrocystitis of the left side. The pegged condition of the teeth is absent. Mucopurulent catarrh of nose and middle ear. On looking into the mouth, the whole of the hard palate is seen to be in a state of active ulceration, and there is necrosis with perforation of its central portion. The palatal destruction extends over the anterior arch of the alveolar ridge, involving the bone to a limited extent. The soft palate, uvula, and anterior faucial pillars are completely destroyed, and the posterior wall of the pharynx is the seat of a large, angry-looking ulcer which extends into the naso-pharynx as far upward as the view extends. The patient has to keep her handkerchief constantly to her mouth to absorb the discharge, which accumulates with great rapidity.

Laryngoscopic examination is not possible; but there is absolute aphonia, with dyspnœa, and the glands at the cornua of the hyoid bone are hard and swollen.

Liquids and solids, which are not finely divided, return through the nose, and the little patient complains of cough, pain in the head, and night sweats.

The ulceration continued to advance, in spite of tonic and anti-syphilitic treatment, until the 18th of October, when the patient was seized with scarlet fever of a mild type. With the appearance of the exanthem the ulceration in the throat began at once to heal, and, when the stage of desquamation was reached, cicatrization was complete, the dyspnoea and dysphagia mitigated, and the voice restored.

Shortly after convalescence the ulceration became again active, and in the early part of the following December a severe, acute pneumonia supervened. The pulmonary inflammation, with which she was confined to the house for four weeks, seemed to exercise no appreciable effect upon the palato-pharyngeal ulceration, which only cicatrized some weeks after resolution had taken place.

The throat then presented the following appearances: The hard palate was covered with cicatrices, and there was a small point of incipient ulceration at its posterior portion. The palate was continuous behind with a dense mass of cicatricial tissue which completely filled the fauces and pharynx, and in which all trace of the original anatomy of these parts was lost. In its center a small, oval depression existed, which communicated with the parts below by an aperture, through which the tip of the little finger could not be passed. From this central sulcus, which represented the remains of the pharyngeal cavity, a small contracted passage led into the naso-pharynx which would just admit an ordinary probe. The child breathed entirely through her mouth, upon closing which, the respiration had a loud, roaring sound. By forcible expiration she could drive a faint column of air through the nose.

Before passing to the consideration of the subject to which I desire to call special attention, there are two features in the above case that deserve particular notice.

While deep ulceration of the pharynx (I refer to the *lower* pharynx) is not rare in congenital syphilis, such a degree of resulting stenosis is excessively uncommon. I know of but two similar cases. In the one,* a mere slit formed the only communication with the structures beneath, and in the other† the pharynx was so constricted as to scarcely admit the point of the little finger.

Of great interest, too, is the *paralysis of both upper eyelids*. The history of the case would point to a cerebral lesion as its probable cause, possibly a gummatous deposit in the course of the oculo-motorius nerve. The subsequent paralysis of the abducent and the symptoms referable to the organ of hearing on the same side may also be susceptible of a similar explanation. Any reasonable doubt as to the syphilitic nature of the paralysis would be dispelled by the easy exclusion of other causes and the curative effect of (presumably anti-syphilitic) treatment. The case, then, adds one to the short list of affections of the cranial nerves in hereditary syphilis observed by Graefe,‡ Barlow,§ Dowse,|| and Galezowski.△

In the "American Journal of the Medical Sciences" for October,* 1880, I called attention to the frequency with which the throat is involved in congenital syphilis, and gave a systematic description of the lesions which are found in the pharyngo-bronchial tract and œsophagus during the course of that disease. In opposition to the then generally received doctrine, I ventured to maintain, as the result of careful investigation of the subject, that, so far from being rare, as was generally supposed, laryngeal affections in congenital syphilis are among the most common and characteristic of its pathological phenomena, and that the invasion of the larynx may be looked for with the same confidence in the congenital as in the acquired form of the disease. Further experience and the study of cases recorded by others have only served to strengthen the positions taken in the paper referred to and the views there expressed, for which I must refer to the original.

Among other things, the following conclusions were reached in reference to deep, destructive ulceration of the oro-pharyngeal cavities: 1. That deep ulceration may invade the palate, pharynx, and naso-pharynx at any period of life from the first week up to the age of puberty. Thus, of thirty cases analyzed with reference to the period of invasion, fourteen occurred within the first year, and ten within the first six months of life, the remainder occurring at periods more or less advanced toward puberty. 2. When the eruption of inherited syphilis is apparently delayed until the latter period, that lesions of the palate and pharynx are found with a peculiar constancy, and often first attract attention to the existence of a diathesis of which they are the sole pathological expression. 3. That females are attacked more frequently than males. Thus, out of 69 cases of pharyngeal ulceration, 41 occurred in the former sex. 4. That ulceration may occur in any situation; but its most frequent seat is the palate, for which it exhibits the closest elective affinity. 5. That, when situated at the posterior portion of the hard palate, the tendency is to involve the soft palate and velum, and thence to invade the naso-pharynx and nose; while, situated more anteriorly, it seeks a more direct pathway to the latter, which is established by perforation of the bone. 6. That the next most common seats of ulceration in order of frequency are the fauces, naso-pharynx, posterior pharyngeal wall, nasal fossa and septum, tongue, and gums. 7. That ulceration, especially that of the palate, shows a disposition to centrality of position, together with a special tendency to caries and necrosis of the bone, a fact probably explicable by the great vascularity of the periosteum and medullary membrane in youth. 8. That the tendency to necrosis exists at all periods of life, but especially in early youth, when it is more destructive and less amenable to treatment. 9. That while deep pharyngeal ulceration generally precedes or co-exists with similar affections of the larynx, the latter occurs too without evidence of pre-existing pharyngeal lesions. 10. That laryngeal ulceration does not commonly follow the pharyngeal destruction of so-called latent syphilis, those palato-pharyngeal ulcerations found in tardy congenital syphilis having

* Catti, "Wiener med. Presse," No. 18, May 2, 1876.

† Lewis, "Med. and Surg. Reporter," Philadelphia, May 3, 1879, p. 381.

‡ Virechow's "Archiv," Bd. lxxiv, S. 269.

§ "Trans. of the Pathological Society of London," 1877.

|| "The Brain and its Diseases," vol. i, p. 76.

△ "Recueil d'ophtalm.," Aug., 1879, p. 454.

* "Congenital Syphilis of the Throat; based on the Study of 150 Cases," N. S. clx, p. 321.

little tendency to invasion of the larynx, but rather to implication of the nasal pharynx and nose. 11. That simultaneous or consecutive ulceration of the palate, pharynx, and nose seems to be characteristic of syphilis, or at least occurs more frequently in this than in any other disease.

I bring these facts again into prominence because they differ from commonly accepted views, and because they possess at least a certain value, by reason of the method by which they were obtained. I desire also to reiterate what was said in connection with the confusion of these lesions with so-called "scrofulous" ulceration. Without entering into a discussion of the subject, suffice it to say that there is no just ground for belief in an ulcerative scrofulide of the throat. It needs only the most superficial review of the writings of those who maintain its separate existence to show the utter confusion which prevails as the result of erroneous views, handed down among the traditions of an obsolete pathology.

It is obviously a point of great practical importance that this fact should be recognized, and especially in view of the rapidly destructive tendency of inherited syphilitic ulceration in the oro-pharyngeal cavities and larynx.

The throat ulceration of congenital syphilis not only exhibits a special tendency to rapid invasion of the deeper tissues; it often possesses an inherent virulence which places it apparently beyond the reach of therapeutic control. This is markedly true of the ulceration which occurs in the earlier years of life. Cases are now and then encountered where the ulcers stubbornly refuse to cicatrize, or do so sluggishly and imperfectly, healing at one point and becoming simultaneously active at others. *Under such circumstances, when remedial measures are apparently of little or no avail, they sometimes cicatrize, as if by magic, on the accession of an acute disease.* It is to this that I wish to direct particular attention.

The clinical study of the cases upon the analysis of which the report referred to was based disclosed certain striking facts in connection with the influence of some of the ordinary infectious diseases of childhood upon the progress of the inherited syphilitic affection. From the historical narratives furnished by this particular group of cases, it would appear (1) *that, while congenital syphilis affords no absolute protection against certain acute infectious diseases, its existence in the individual seems often, other things being equal, to mitigate their severity and exert a favorable influence on their course;* (2) *that certain acute diseases, accompanied by an exanthem, favor the dissipation, at least temporarily, of the throat and other manifestations of the disease;* (3) *that while at no period of the disease is the child exempt from these affections, they are more liable to be contracted during the period of latency—that curious interval of apparent health in congenital syphilis which Cazenave has poetically called the sleep of the virus.*

These remarks are limited to scarlet fever, measles, and chicken-pox, but they could doubtless be extended to embrace others of the exanthemata; or, in other words, to those diseases which present a certain analogical resemblance to syphilis.

They do not apply, for obvious reasons, in the case of

excessive virulence of the syphilitic cachexia or malignant epidemic influence of the intercurrent disease.

Of special interest is the effect produced by acute febrile disease upon the throat lesions of congenital syphilis. *Chronic inflammatory conditions and ulceration of the larynx, pharynx, and nasal passages are often influenced in a remarkable manner through the presence in the individual of an intercurrent febrile affection. This is, moreover, eminently true of those acute blood diseases with special tendency to local manifestations in the throat, such as scarlet fever, measles, diphtheria, etc. According to personal experience, scarlet fever and measles exert, as a rule, a favorable influence on the course of the throat affection, their supervenience being of itself sufficient to cause its complete disappearance. The poisons of the two diseases in their circulation in these regions appear to be mutually destructive, and the throat escapes by virtue of such reciprocal antagonism.* The cure here may be permanent, or relapses of the inflammatory or ulcerative process may follow the removal of the antagonistic influence of the intercurrent disease.*

These remarks do not apply to diphtheria. When this affection supervenes during the existence of lesions in the throat, the patients rapidly succumb to the disease. The existence of syphilis in the child apparently increases the tendency to membranous formation; indeed, in some instances, apart from the presence of the diphtheritic process, there seems to be a special tendency to fibrinous formation in the nose and retro-nasal space.

The influence of acute disease upon the manifestations of constitutional syphilis is a subject which has received some attention at the hands of syphilographers, especially certain of the French school; but very little is known as yet, beyond the empirical fact, that the lesions of that disease, and especially the cutaneous syphilides, are often modified by the introduction into the blood of the virus of an intercurrent febrile affection. This modification may consist either in the permanent or temporary dissipation of existing syphilitic lesions, or in the exaggeration or intensification of the morbid process. Thus, for example, various syphilitic affections, such as skin eruptions, exostoses, etc., have been observed to disappear during the course of erysipelas,† acute rheumatism,‡ cholera,§ variola,|| febrile furunculosis,^ etc. Laségué ¶ has recorded a case of ulceration of the pharynx and tonsils which disappeared during an attack

* It is quite possible that this may also be true of other mucous surfaces of the body.

† Vide Cazenave and Schedel, "Practical Synopsis of Cutan. Dis.," etc., Phila., 1829, p. 353; Rayer, "Traité des mal. de la peau," Paris, 1835; Lamarche, "De l'érysipèle salutaire," Thèse de Paris, 1856, and the excellent articles of Mauriac; "Étude clinique sur l'influence d'érysipelas dans la syphilis," Paris, 1873; published also in the "Gaz. des hôpitaux," Nouv. sér., 1873, pp. 305, 321, 346, 385, 410, 443, 466, 506, 546, 569, 594, 601. See, also, Bidenkap's case (cited by Bäumlér, von Ziemssen's "Cyclopædia," Am. ed., vol. iii, p. 98, 1875).

‡ Rayer, *op. cit.*, p. 546 (Mauriac); see also Jourjon, "Infl. des mal. aiguës sur quelques manifestations cutan. de la syph.," Thèse de Paris, 1870.

§ Cazenave, "Traité des syphilides," p. 593 (Mauriac).

|| Gore, "Lancet," Sept. 2, 1858.

^ Diday (quoted by Mauriac, *l. c.*).

¶ "Traité des angines," pp. 110-112.

of erysipelas, while in a similar one observed by Martellièrre* a fatal result ensued from that disease. The dissipation of syphilitic eruptions has also occurred during pregnancy,† and as the result of vaccination,‡ and there is a case on record where the latter apparently exerted a curative influence in caries of the pharyngeal vault.*

The remarkable power of erysipelas over the cutaneous syphilides has suggested its artificial production as a therapeutic agent in these affections,|| while their behavior under the operation of the vaccine virus led to the now almost forgotten practice of Lukonski.^A It has, finally, even been proposed by an enthusiastic pupil of M. Hardy to inoculate the poison of small-pox in cases of syphilis which have resisted all other methods of treatment.()

It is sufficiently evident, then, that a reciprocal antagonism exists between the poison of syphilis and that of a number of acute diseases. By what pathological law this is brought about is, in the present state of our knowledge of the mutual relations of disease, a matter of pure speculation. In the case whose history has been recited above it is interesting to contrast the curative effect of the exanthematous fever on the ulceration in the throat with the persistence of the latter during the acute pulmonary affection.

This remarkable influence of the febrile state upon syphilitic inflammation and ulceration of the nasal passages and throat is also, in a measure, true of simple inflammatory conditions of these cavities. It were foreign to the purpose of the present article to elaborate this latter and cognate subject, and I shall therefore simply offer for your consideration the fact that *simple catarrhal inflammation of these regions occasionally disappears completely, and is permanently cured during the course of an acute febrile disease.* Whether this occur as a phenomenon of so-called "substitution," or as the result of a profound impression made upon the nutrition of the parts by virtue of which abnormal secretion is arrested and the inflamed tract placed in a condition favorable to resolution, can only be determined by the accumulation of more exact scientific data concerning the reciprocal antagonism of pathological processes.

Without, then, attempting any special explanation or generalization, I present the foregoing observations from my clinical experience as a contribution to the study of an interesting but imperfectly understood subject.

DISCUSSION.

Dr. J. H. HARTMAN.—I have seen a case of congenital syphilis, in a child four years old, in the course of which an attack of measles supervened, which aggravated the ulceration in the nasopharynx. The child recovered from the attack of measles, but the throat was left in worse condition than before. True, this

* "Sur l'angine syphilitique" (cited by Mauriac).

† Gilbert, "Bull. de l'acad. de méd.," 1851, tom. xvii, p. 156.

‡ "Ibid." "Revue méd.," 1861, tom. i, p. 167, Jeltzinski.

§ Jeltzinski, l. c., "Sur la cure radicale de la syphilis par la vaccination."

|| Sabatier, "Propositions sur l'Érysipèle considéré principalement comme moyen curatif dans les mal. cutanées," etc., Thèse de Paris, 1831.

△ Jeltzinski, l. c.

◇ Garrigue, "De l'influence des mal. aig. sur les diathèses," Thèse de Paris, 1870.

was only one case; still, it goes to show that such cases are not always benefited or controlled by an attack of one of the exanthemata, as Dr. Mackenzie has stated.

Dr. F. DONALDSON said he had understood Dr. Mackenzie to question the existence of scrofulous ulceration of the throat in young children, not connected with congenital syphilis. He related a case, now under his care, that of a child five years old, the son of a healthy farmer, who had, with a large ulcer of a scrofulous character over the soft palate, unmistakable evidence of scrofula, such as enlargement of the lymphatic glands, etc., and none of the symptoms usually associated with congenital syphilis.

Dr. F. I. KNIGHT.—My experience regarding these cases, while limited, has caused me to feel very much as Dr. Mackenzie does—namely, that a careful search for the origin will reveal a history or evidence of syphilis, and, if not of syphilis, of tubercle. We can not always get a history of syphilis, nor can we always do so in the adult presenting certain symptoms, but antisiphilitic treatment gives results which justify us in considering this the nature of the disease.

The PRESIDENT.—After seeing a large number of cases of the character referred to in the paper, in dispensary practice, my conviction is a growing one that, so far as the mucous membrane of the air-passages is concerned, there is no difference between congenital syphilitic and scrofulous ulceration. I formerly made a distinction, recognizing the action of two constitutional tendencies in the production of such affections, but now make no distinction between scrofulous ulceration of the fauces and ulceration of the same parts from syphilis. I should have been glad had Dr. Mackenzie gone a little more fully into the question of treatment. I am so far convinced of the identity of the two conditions that of late years I have depended almost entirely upon the administration of mercurials, and in many cases the result has been eminently satisfactory and such as to strengthen the idea of the identity of the two diseases.

Dr. MACKENZIE closed the discussion, and said: I especially avoided generalizations in my paper, and only stated that, in my experience in this class of cases, the ulceration was often cured by an intercurrent disease. I further stated that this remark did not apply to malignant epidemic influence, or so-called syphilitic cachexia. In Dr. Donaldson's case, I should like to ask how a diagnosis was to be made between syphilis and scrofula. Dr. Knight has pointed out the difficulty of arriving at the historical facts, and we must therefore rely upon our powers of physical diagnosis. With regard to treatment, I generally give mercurials and the iodide of potassium, and apply iodoform locally. If the ulcers heal while the patient is taking cod-liver oil, it is not evidence that the cause was scrofula and not syphilis, for cod-liver oil may act as a tonic in various conditions.

A CASE OF SUCCESSFUL EXTIRPATION OF THE THYROID GLAND.*

By FRANK W. ROCKWELL, M. D., BROOKLYN,
SURGEON TO ST. MARY'S AND ST. JOHN'S HOSPITALS.

The specimen presented this evening was removed from Fanny —, a Bavarian, eighteen years old, who entered my service in St. Mary's Hospital in December, 1883, with the following history:

When about three years old a tumor was noticed on the right side of the neck, which had been slowly but steadily increasing ever since.

* Read before the Brooklyn Pathological Society, April 10, 1884.

About three months previous to admission a similar growth made its appearance to the left of the trachea, and during this time both tumors had increased to such an extent as to greatly interfere with deglutition and respiration; she had had repeated attacks of vertigo and paroxysmal dyspnoea, and had been under the care of different surgeons, and in St. Francis's Hospital, New York, and the City Hospital, Brooklyn.

On admission, she was well nourished, with good appetite and digestion, but in constant fear of dying during one of her suffocative attacks.

A tumor the size of a large orange occupied the inferior carotid triangle on the right side, and a smaller one a similar position on the left.

On examining the masses during efforts at deglutition, very slight movements could be detected as accompanying the act, but lateral motion could be elicited with comparative ease.

The right growth could be easily defined, except at its posterior border, where it shaded off into, and was lost under, the belly of the sterno-mastoid muscle.

The patient was at once put upon full doses of the potassium iodide, and the quantity administered was gradually increased, until on January 24th she had reached the amount of one hundred and forty grains per diem, when it was used in diminished doses for a few days on account of irritability of the stomach and the supervention of acne pustules.

During the preceding month, beginning January 2d, she had, in connection with this treatment, taken that which consists in giving gradually increasing doses of the sulphate of strychnine, beginning with very minute doses and increasing to a point of tolerance.

Local treatment of various kinds was adopted. At first the inunction of the ung. potassii iodidi; subsequently the ointment of mercuric biniode in combination with prolonged exposure to the rays of the sun, as advocated by Dr. Monatt, of Bengal; these failing, Professor Stoerk's injections of alcohol, and also Lücke's of strong tincture of iodine, were attempted, but discontinued after a few trials, as they produced severe pain and inflammation, but with no beneficial results upon the cystic portion of the growth, for the obliteration of which they were employed.

By February 1st the patient was taking two hundred grains of iodide a day, with no benefit except that during her stay in the hospital her vertigo and dyspnoea had slightly improved—a result probably as much due to her quiet life in the ward as to any drug administered.

February 6th.—She expressed her determination to have an operation performed for her relief or leave the hospital, her conclusion having been reached after many conversations with myself and my colleagues upon the dangers of the procedure and its uncertain results.

Accordingly, on February 11th, she was placed under ether, and an incision made reaching from the hyoid bone to the sternal notch.

The superficial cervical fascia and platysma were divided cautiously, and the superficial layer of the deep cervical fascia expanded over the growth was reached and split up on a director.

The capsule of the gland was now seen filled with distended veins and arteries, which, inosculating in all directions, made any manipulation in their vicinity extremely dangerous, as many of them were as large as the radial or ulnar artery. I had, however, determined, before undertaking the operation, to avail myself of all the advantages which a systematic employment of forcipressure and the use of catgut ligatures might give me, and I accordingly began a careful enucleation of the gland, ligating all vessels in two places and cutting between them or holding them with Péan's forceps as they bled, and securing them at my leisure. In this way I easily though slowly dissected the tumor away until I reached the sheath of the internal jugular vein, to which the gland was intimately adherent; the vein, turgid with blood and pulsating from the movements of the artery beneath it, was so difficult to reach that I for the time being abandoned the dissection in that direction and began working toward the median line. By pursuing the same plan I gradually freed the gland from firm adhesions, both vascular and fibrous, to the trachea and oesophagus, and then, having reached and ligated the inferior thyroid and isthmus, I began, from the upper border of the growth, to free it from the carotid sheath.

The superior thyroid was now ligated, and the tumor slowly and carefully dissected away from the carotid and internal jugular and lifted out of its bed. Up to this time *not more than two ounces of blood had been lost*, although, on removing the growth, the trachea, oesophagus, internal jugular for about two inches, and common carotid arteries were all easily distinguished and lying bare in the wound. The left lobe of the gland was not removed, as another tedious dissection would have been necessary, and it was so slightly affected as to interfere neither with the patient's health nor with her appearance.

Vessels on which temporary ligatures had been applied were now secured with catgut, and I was about to close the wound when I found, on examination, that the catgut ligature on the inferior thyroid was not secure, owing to a slight retraction, apparently, of the cut end of the vessel.

On seizing the vessel with a pair of forceps, the ligature came away entirely, and in a moment a hæmorrhage occurred which showed vividly, to both myself and those who were present, how perfectly helpless a surgeon must be in the presence of such a case when operating by the usual method of "attempting as rapidly as possible to reach the pedicle of the growth and secure the principal vessels."

The artery, however, was secured at once, and the wound irrigated with the mercuric-bichloride solution, 1 to 1,000, and closed. As the dissection had necessarily invaded the space lying behind the clavicle, a button-hole was made below the incision, and through this a drainage-tube was led up into the bottom of the wound and secured with a horse-hair suture. Two long catgut sutures were left as guides in case of secondary hæmorrhage, one leading to a large vessel in the isthmus of the gland, the other to the inferior thyroid; their ends were brought out of the opening by the side of the drainage-tube. The wound was closed with horse-hair sutures, and covered with a pad of naphthalinated sawdust and a gauze bandage.

Antiseptic precautions were adopted throughout the operation, with the exception of the spray. π x of Magendie's solution were given subcutaneously, and the patient, who had been under ether nearly two hours and a half, and was suffering somewhat from shock, was put to bed. In the evening, under moderate stimulation, her temperature was 99.5° F., pulse 99.

12th.—Patient disarranged the dressings during the night, necessitating their renewal. Temperature 100.5°, pulse 120. Some soreness about the throat.

13th.—Some pain on swallowing, though liquids and semi-solids are taken with relish. Temperature 100.25°.

14th.—Drainage-tube, and all but four of the sutures, removed. Feeling very comfortable. Temperature 98.5.

16th.—Complains of some pain beneath right ear. Temperature 101.75°. A patient with erysipelas has been removed from the bed next hers in the ward. By evening the temperature had fallen to 99.75°. Passed a quiet night under the influence of Magendie's solution (π x).

17th.—Remaining sutures and the ligature from the isthmus came away. A little stiffness in the neck.

18th.—Slight discharge from opening made for drainage.

20th.—New dressing applied; discharge a little more free. From this date, however, all went well until January 28th, when the ligature came away from the inferior thyroid. From this time the slight opening left was dressed with naphthalin ointment, and rapidly closed.

March 2d.—Wound entirely healed. Patient has been going about the wards for several days. The left lobe of the thyroid seems to be diminishing in size, and she is free from all symptoms of her former trouble.

14th.—Left the hospital to resume her duties as a house servant.

The specimen removed weighed exactly twelve ounces avoirdupois, consisting of hypertrophied glandular tissue, and contained cysts. Projecting from its upper border was the large open trunk of the superior thyroid, and in various directions upon its surface could be seen intersecting branches of large veins with thin walls; at its inferior border and at the point of its attachment to the isthmus, other vessels had been ligated, and their stumps still remain. The growth is evidently a cysto-adenoma, the original thyroid vesicles having become dilated and their viscid contents rendered fluid by the ordinary processes which accompany such changes in epithelial glands.

One word in regard to the present position of the operation of extirpation of the thyroid gland.

So far as my own knowledge goes, all prominent surgical authorities of recent date, with one exception, condemn the operation unhesitatingly.

In reviewing the literature of the subject previous to the operation, I could find no support for the attempt except the clinical facts adduced by Watson, of Edinburgh, and Billroth, Kocher, and the other German operators. Since then my attention has been called, through the kindness of my friend Dr. G. V. P. Convery, to the valuable work of Dr. Paul Liebrecht, of Brussels, who, from a tabulated account of all the cases he could collect, gives the following statistics:

Operations by German, Austrian, and Swiss surgeons...	226
“ “ French surgeons...	34
“ “ English “	30
“ “ American “	16
“ “ Italian “	10
“ “ Prussian “	3
“ “ Swedish “	1
“ “ Belgian “	2
Total.....	322

Of this large number one is surprised to find that 250 were cured, 64 died, 2 were not completed, and in 5 the result was uncertain.

To these are added, without details, a series of 34 cases with 5 deaths, making a grand total of 356 cases with 69 deaths, or a mortality of 19.39 per cent. After alluding to 400 as the probable number of operations actually known to have been performed, the author is quoted in the “American Journal of the Medical Sciences” for October, 1883, as saying that the actual mortality from causes incident to the operation itself does not exceed 8½ per cent. In this statement he is supported by Watson, who maintains that operations conducted on his plan—the one detailed in the first part of this paper—prove fatal in only about 7 per cent.

Surely it would seem, from this surprising array of cases, that, in spite of the traditions of the profession, thyroidectomy, like ovariectomy, would soon find its place among recognized surgical operations, and be resorted to under the same conditions as those which govern us in the selection of cases for other forms of operation on morbid growths.

Book Notices.

Elements of Surgical Pathology. By AUGUSTUS J. PEPPER, M. S. M. B. Lond., F. R. C. S. Eng., Surgeon to St. Mary's Hospital, etc. Illustrated with eighty-one Engravings. Philadelphia: Henry C. Lea's Son & Co. Pp. xii-503.

In this small work we have a contribution to surgical literature of positive value. It is not pretentious, aiming only to supply what is necessary for the student to know when he comes up for examination, but it contains much more than practitioners generally do know, and will serve exceedingly well as a book of reference. It embodies a great deal of matter, extending over the whole field of surgical pathology; its form is practical, its language is clear, and the information set forth is well arranged, well indexed, and well illustrated. Such works can not be exhaustive—they are not intended to be—what matter they contain has to be carefully selected, and the selection constitutes the chief charm of this particular book; the student will find in it nothing that is unnecessary, and will miss but little that is of practical importance. The author has devoted a few lines or a few pages, as the case may be, to each subject, and the list of subjects covers the whole range of surgery. The book supplies a very manifest want, and should meet with success.

BOOKS AND PAMPHLETS RECEIVED.

Some Recent Theories regarding the Pathogeny of Sympathetic Ophthalmia, viewed from a Macroscopic Standpoint. By Samuel Theobald, M. D., etc., Baltimore. [Reprint from the “Archives of Ophthalmology.”]

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THE PROPOSED NEW CITY PARKS.

As many of our readers are doubtless aware, a bill has been drawn by a commission consisting of Mr. Luther R. Marsh, Mr. Louis Fitzgerald, Mr. Waldo Hutchins, Mr. Charles L. Tiffany, Mr. William W. Niles, Mr. George W. McLean, Mr. Thomas J. Crombie, and Mr. John Mullaly, which provides for the laying out of a number of additional parks in the upper part of the city. The bill has passed both branches of the Legislature, and needs only the Governor's signature to become a law. In view of the disinterested devotion to the welfare of the State, and of the various portions of the same, which Governor Cleveland has shown during his term of office, we feel confident of his approval of the bill. To urge the hygienic grounds on which some such provision for additional parks should be made for New York appears superfluous, so far as our readers are concerned, for few propositions are less disputable than that the health of a city population is vastly promoted by the number and size of its open areas. The proportion of the extent of our present parks to the population is ridiculously small when compared with what is found in other cities, as is shown by the following table, which is included in the report of the commission to the Legislature:

	Population.	Acres in parks.	Inhabitants to the acre.
New York	1,500,000	1,094	1,363
London	4,500,000	22,000	205
Paris	2,250,000	172,000	13
Vienna	800,000	8,000	100
Berlin	1,174,293	5,000	235
Dublin	366,000	2,000	183
Brussels	350,000	1,000	350
Amsterdam	350,000	800	437
Tokio	1,000,000	6,000	167
Philadelphia	900,000	3,000	300
Chicago	650,000	3,000	200
Washington	150,000	1,000	150
St. Louis	350,000	2,100	167
Boston	400,000	2,100	190
Brooklyn	600,000	940	629
Buffalo	160,000	620	258
Savannah	33,000	60	550
Baltimore	400,000	776½	515
San Francisco	250,000	1,181	211

It is well known that in general the death-rate of New York exceeds that of almost every other large American town, as well as those of most large cities in the civilized world. While there is abundant reason to think, as we have stated on former occasions, that the reported death-rate of New York is explicable by circumstances not generally taken into account, the legitimate tendency of which is to mitigate the stigma attaching to the city by reason of its mortality bills, yet this fact should not diminish our efforts to do away with the nominal death-rate shown by the figures. Nothing should be left

undone to accomplish the purpose; least of all can we afford to neglect so obvious a measure as the providing of more "breathing spaces" for the multitudes now crowded into our tenement-houses. There is no denying that the need in this respect is at present most pressing in the older parts of the town, where, as things are now, children have to be carried a mile or more in many instances before a park is reached—a park for show rather than for use, save for the tramps that monopolize the benches; where for an infant to roll on the grass is looked upon as sacrilege. This, we admit, is true; but, because we have committed one grievous wrong, must we go on in that course to the end of the chapter? To establish parks in the lower part of the city must be the work of time, but the opportunity is offered now to redeem our errors in great measure by opening parks in the district recently annexed to the city, since, as we understand, it can be done at an outlay that appears insignificant in comparison with other than the sanitary advantages to be derived.

We trust that it will not become a question which of the proposed new parks can best be dispensed with; we need them all. In some respects the Pelham Bay Park seems most desirable, both on account of its extensive frontage on the sound and by reason of its accessibility when the railways now in prospect are completed. But we hope to see the plan elaborated by the commissioners and sanctioned by the Legislature approved of by the Governor.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 27, 1884:

DISEASES.	Week ending May 20.		Week ending May 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	4	3	1	1
Typhoid Fever	4	1	7	2
Scarlet Fever	99	15	76	17
Cerebro-spinal meningitis. . .	6	4	3	3
Measles	94	13	103	21
Diphtheria	30	17	47	23

SMALL-POX IN LONDON.—The London medical journals of the 17th inst. report that on the preceding Saturday it was stated at a meeting of the Metropolitan Asylums Board that no fewer than 346 new cases of the disease had been received by the asylum authorities during the fortnight ending on that date. They came mostly from the eastern parts of the metropolis.

SMALL-POX AT QUARANTINE.—The steamship Polaria, which arrived at this port toward the close of last week from Hamburg, was detained at the quarantine station, having been found to have five persons on board sick with small-pox. The patients were removed to the Riverside Hospital. Three new cases are said to have broken out on board the ship since her arrival.

THE BOYLSTON PRIZES.—The questions proposed for the year 1885 are the following: 1. The Alleged Recent Reappearance of Intermittent Fever in New England; its History and the Pathology of the Disease—prize, \$250. 2. The Best Preliminary Education for the Study of Medicine—prize, \$200. The questions proposed for the year 1886 are: 1. The Influence of the Soil as a Factor in the Causation and Spread of Typhoid Fever—prize, \$350. 2. The Relation of Hospitals to Medical Educa-

tion—prize, \$200. The essays should be sent in before the first Wednesday in April of each year. Further information may be had of Dr. W. F. Whitney, Harvard Medical School, Boston.

A BILL TO REMUNERATE ARMY NURSES has been introduced into the United States Senate, providing that female nurses who served in the army during the late civil war shall be paid such sums as shall make the amounts received by them equal to \$25 a month for the time of their service as nurses.

QUACKERY IN IOWA.—At the recent annual meeting of the Iowa State Medical Society, the President, Dr. Robinson, called attention in his address to the necessity of securing an improved legal regulation of the practice of medicine. Legislation by neighboring States, he said, had driven great numbers of quacks into Iowa.

CREMATION seems to be making its way in Pennsylvania, in spite of the opposition which it has had to encounter. A Philadelphia correspondent of the "Tribune" states that a new crematory is to be built near that city, and that Dr. Joseph Leidy, who had been reported to be opposed to cremation, has published a statement disclaiming that feeling, and expressing his gratification that the late Dr. Gross directed his remains to be incinerated.

A BILL CREATING A NEW YORK STATE BOARD OF PHARMACY, and prescribing regulations for the practice of pharmacy in all the counties except New York, Kings, and Erie, has been signed by the Governor.

CONTAGIOUS PLEURO-PNEUMONIA is reported to have been detected in a number of stables in Blissville, Long Island, by an inspector acting under the State Board of Health. It is said that the cows are improperly cared for, and are milked up to the time of becoming moribund, the milk being served to customers, or are slaughtered and the meat sent to market. It is to be hoped that the board will take energetic measures in these cases.

"ROUGH ON RATS," the deadly effects of which upon human beings we have had frequent occasion to record of late, was employed successfully by a suicide in this city last Sunday. Is it not about time for some measures to be taken to check its indiscriminate sale?

SUDDEN DEATH OF A PHYSICIAN.—Dr. B. H. R. Davenport, of Nanticoke, Pa., is reported to have fallen dead recently while engaged in dressing a wound.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 18, 1884, to May 24, 1884:*

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. Ordered to proceed to Fort Canby, Washington Territory, for temporary duty at that post, relieving Assistant Surgeon W. O. Owen, Jr., U. S. A., who will report in person at these headquarters for further orders. Par. 5, S. O. 62, Headquarters Department of the Columbia, May 12, 1884.

STERNBERG, GEORGE M., Major and Surgeon. Relieved from duty in the Department of the East and ordered to report to the Surgeon-General of the Army for temporary duty. Par. 2, S. O. 115, A. G. O., May 17, 1884.

MAGRUDER, DAVID L., Lieutenant-Colonel and Surgeon. Ordered to be relieved from duty as medical director, Department of the Missouri, and to proceed to Philadelphia, Pa., and assume duties of attending surgeon and examiner of recruits in that city.

FRYER, BLENOWE E., Major and Surgeon. Ordered from Department of the Missouri to Department of Dakota.

EWEN, CLARENCE, Captain and Assistant Surgeon. Ordered from Department of the Missouri to Department of the Platte.

STRONG, NORTON, First Lieutenant and Assistant Surgeon. Ordered from Department of the Platte to Department of the Missouri. Par. 7, S. O. 115, A. G. O., May 17, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending May 24, 1884:*

MARTIN, W., Assistant Surgeon. Ordered to U. S. Constellation.

NELSON, H. C., Medical Inspector. Granted leave of absence for one year.

BALDWIN, L. B., Passed Assistant Surgeon. Detached from U. S. S. Pensacola, and waiting orders.

WELLS, H. M., Surgeon. Ordered to Naval Hospital, Brooklyn.

MURRAY, J. M., Passed Assistant Surgeon. Detached from U. S. S. Minnesota and ordered to U. S. S. Passaic.

WAGGENER, J. R., Passed Assistant Surgeon. Ordered to U. S. S. Hartford.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, June 2d:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association.

Tuesday, June 3d: New York Obstetrical Society (private); New York Neurological Society; Medical Societies of the Counties of Columbia (semi-annual), Franklin, Herkimer (annual), Niagara (annual), Orange (annual), Saratoga (annual), Schoharie (annual), Ulster (annual), and Yates (annual), N. Y., and Hudson and Warren, N. J.; Buffalo Medical and Surgical Association; Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association.

Wednesday, June 4th: New Hampshire Medical Society (Concord); Medical Societies of the Counties of Cattaraugus (annual) and Richmond, N. Y.

Thursday, June 5th: New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.

Friday, June 6th: Practitioners' Society.

OBITUARY NOTES.

DR. JAMES MILLAR, OF NORTH PROVIDENCE, R. I.—Dr. Millar, one of the oldest members of the medical profession in the State of Rhode Island, died May 15th, at the age of seventy-eight. Born in Scotland, and educated at Glasgow, he came to Providence at an early age, and devoted a long and useful life to the practice of medicine, respected and beloved by all with whom he had to do. He was the father of Dr. Robert Millar, an eminent surgeon of Providence.

Proceedings of Societies.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of April 10, 1884.

The President, Dr. B. F. WESTBROOK, in the chair; Dr. LEFF, Secretary.

ANGIOMA OF THE COCCYX.—Dr. F. A. JEWETT presented a specimen, and gave the following history:

"The accompanying tumor was removed in January, 1884, from the coccyx of Miss B., aged thirty-eight, who presents the following history:

"At birth her mother says it was as large as a foetal head, and of a globular form. It decreased in size, becoming firmer, up to her seventh or eighth year, when it was of about the size of a goose's egg, and quite hard. When about seventeen years of age she had a fall, striking heavily upon the tumor. An abscess resulted from this, but healed without giving her much trouble. Three years ago she fell again, striking the tumor a sharp blow upon the edge of a door-sill, an abscess following, which continued to discharge three or four ounces of offensive pus daily, until the removal of the tumor in January. Shortly after her second fall she went under the care of a quack, who injected it with a caustic solution. After pursuing his treatment for a year she yielded to the advice of physicians in this city and consented to its removal, which was accordingly done, and the patient made a good recovery."

CARCINOMA OF THE LIVER.—Dr. GEORGE DRURY presented a case, with the following history:

"Elizabeth N., aged forty-six; married; English. The patient had always enjoyed good health, with the exception of an occasional attack of biliousness. Last August, after nursing her daughter through a prolonged typhoid fever, she was taken with what she supposed to be one of her usual bilious attacks; but, instead of obtaining relief, her symptoms continued, and she noticed she was developing a jaundiced appearance, that her urine was of a dark-brown color, that her gastric symptoms, such as nausea, vomiting, pyrosis, and flatulence, were increasing in severity. She complained of no pain referable to the stomach or liver, but vomited matter consisting of food taken, mixed with a small quantity of mucus. She was at this time treated for gastro-duodenal catarrh, with little alleviation of her symptoms, and was rapidly emaciating, losing strength, and becoming despondent. I saw the patient about November 1, 1883, and elicited the foregoing history. The physical examination of the liver revealed a marked prominence of the right hypochondriac, including in part the epigastric and right lumbar regions. The notch of the liver could be felt about half an inch above and to the right of the umbilicus. The anterior border of the right lobe could be traced downward and to the right, reaching within an inch of the crest of the ilium. The surface of the liver was hard and nodular, and markedly so at the notch, where a hard nodule, of about the size of a walnut, could be felt. This last-named condition was pointed out to me by Dr. B. F. Westbrook, who examined the patient about November 22d. On December 1st she vomited two ounces of dark blood. Four days later she had a hæmorrhage from the bowels, amounting to about four ounces of bright-red blood, which was repeated with each stool, but in smaller quantities, for four days. The gastric symptoms previous to the hæmatemesis had greatly improved under treatment, so that she was able to retain milk and broths without vomiting, but after the hæmorrhage her gastric irritability returned with greater severity. She had not at any time complained of pain over the liver, nor had she any tenderness on examination. Up to January 1st there was no evidence of ascites, but on January 8th, one week later, I called to see Mrs. N., and found her abdomen much distended and filled with fluid up to the umbilicus, and her feet and ankles oedematous. The oedema and ascites daily increased, interfering with the action of the heart and with respiration. On February 2d the hæmorrhage from the bowels returned, and continued with each evacuation up to February 13th, when she died from exhaustion.

"Autopsy, held twenty-four hours after death, by Dr. J. W. Brandt, in the presence of Dr. M. Gay and myself.—Body greatly emaciated, abdomen distended, lower extremities oedematous, skin jaundiced, cranial and thoracic organs not examined. On making an incision through the abdominal walls, a

large quantity of amber-colored fluid escaped. The liver stood out prominently, measuring about four inches below the margin of the right ribs. The gall-bladder was much distended and presented at the notch, extending an inch from its border; the surface of the liver was studded with isolated nodules of irregular size. The liver, though much enlarged, was not altered in shape. The right lobe was found to be more extensively diseased than the left. A cicatrix-like depression was found on the convex surface of the right lobe. A cancerous deposit was found to exist on the walls of the gall-bladder. An incision being made into the liver, the cut surface presented a yellowish appearance, and dark-brown juice oozed from the bile-ducts on pressure. There was enlargement of a few mesenteric glands, all the other abdominal organs being healthy.

"The points of interest in this case are the following: The early appearance of jaundice, due to the disease being primarily located around the larger bile-ducts, associated with a more or less catarrhal condition of their mucous membrane, obliterating the caliber of the ducts, thus preventing the secretion of bile, and in return producing absorption of the bile products, giving the early symptom of jaundice. Secondly, the absence of pain and tenderness during physical examination is of interest, for in cases of hepatic cancer, where the liver is not enlarged and is concealed under the costal arch, the persistent tenderness of the liver induced by percussion of the hepatic region, where there is absence of any cause of an existing cachexia, becomes a highly diagnostic sign. Thirdly, the late appearance of ascites, showing that the disease did not interfere with the portal circulation until it had become far advanced. Lastly, the escape of all the other organs from cancerous deposits, as shown by the pancreas, which has been removed with the liver, and apparently is in a normal condition. Dr. L. F. Criado has kindly prepared two microscopical sections from this specimen, which are present for exhibition."

BRONCHOCELE.—Dr. F. W. ROCKWELL showed a thyroid gland that he had removed from a patient in St. Mary's Hospital, and read a paper on the operation. [See p. 608.]

H. N. READ, M.D., *Editor for the Society.*

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-fourth Annual Meeting, held in Chicago Tuesday, Wednesday, and Thursday, May 20, 21, and 22, 1884.

Tuesday—First Day.

The meeting was called to order by the President, Dr. EDMUND ANDREWS, of Chicago, and a prayer was offered by the Rev. ABBOTT E. KITTEDGE.

THE ADDRESS OF WELCOME was read by Dr. E. INGALS, of the Committee of Arrangements.

GENERAL SHERMAN was then introduced, and in a few remarks expressed his pleasure at meeting the medical profession of the State in Chicago.

THE ORDER OF BUSINESS was announced by the Chairman of the Committee of Arrangements, Dr. D. W. Graham, as follows: Reports of the committees on practical medicine, surgery, obstetrics, gynecology, ophthalmology and otology, drugs and medicines, and necrology; volunteered papers. Dr. Graham also announced the invitations that had been extended to the delegates.

THE PRESIDENT'S ADDRESS was then read. It contained some recommendations as to minor changes in the rules of procedure, and touched upon the subject of ethics. All codes of ethics were necessarily imperfect; what was needed was not so much an improvement of the code, however, as a better com-

prehension of the general principles that underlay all written codes. Etiquette was a different matter, being more or less artificial and the product of the particular state of culture in the community affected. Those who confounded etiquette with ethics committed a grave blunder, and might be enlightened if it were possible to take them back forty or fifty years, to the period which preceded the formation of the American Medical Association, when there was no code; they would then see what had been accomplished by the code. At the conclusion of the address, a vote of thanks to the President was passed.

THE REPORT ON PRACTICAL MEDICINE, by Dr. J. C. FRYE, of Peoria, was read by Dr. McIlvaine, of Peoria. It dealt with the germ theory of disease, and detailed many of the advances in pathology, diagnosis, and therapeutics that had taken place during the year.

Afternoon Session.

URANOPLASTY was the subject of remarks by Dr. PRINCE, who showed a patient on whom he had performed the operation for cleft palate with success.

RECENT ADVANCES IN SURGERY was the subject of a paper by Dr. ROSWELL PARK, of Buffalo, N. Y., formerly of Chicago, in which an interesting exposition was given of the present state of antiseptic surgery, and new operative procedures were discussed.

GUNSHOT WOUNDS were the chief theme of a paper by Dr. DAVID S. BOOTH, of Sparta, who gave an account of a case of extensive gunshot injury of the neck and shoulder.

THE GERM THEORY OF DISEASE, in its practical bearings, was treated of in a paper by Dr. HENRY GRADLE, of Chicago. Particular reference was had to the cholera germ and to the bacillus of tuberculosis.

ALKALOIDAL AND KINDRED MEDICATION was the title of a paper by Dr. J. A. ROBISON, of Chicago, which was a vigorous plea in favor of precision in pharmacy and prescribing.

PLASTIC OPERATIONS IN GYNÆCOLOGY were the subject of a short paper by Dr. L. H. COER, of the Committee on Gynæcology.

Wednesday—Second Day.

THE COMMITTEE ON NECROLOGY reported at the morning session, through its chairman, Dr. E. INGALS, giving an abstract of the mortality among the physicians of the State for the years 1882 and 1883. Of seventy-eight physicians whose deaths had been reported, the average age was fifty-two years, a showing which the committee thought ought to be improved. The report concluded with short obituary sketches of Dr. JOSEPH OSMOND HAMILTON, of Jerseyville, and Dr. C. E. PARKER, of Beardstown.

EXCISIONS OF JOINTS were treated of in a paper by Dr. CHRISTIAN FENGER, with special reference to the final results in successful excisions of the knee and the hip. These results were illustrated by the exhibition of patients whom the reader had had under treatment.

VACCINATION.—Dr. M. F. BASSETT, of Quincy, read a paper in which he took the ground that humanized virus had been shown by long experience to be preferable to bovine virus. For his part, he preferred that those of his patients who refused to be vaccinated with the former should bear the responsibility themselves, for he would not use the animal virus.

Dr. LYMAN called attention to the speedier action of the humanized virus.

Dr. INGALS had never perceived any great difference between the two kinds of virus, provided they were good of their kind. Much depended on the way in which they were used.

Dr. E. P. COOK agreed with Dr. Ingals, and deprecated Dr. Bassett's position.

Dr. A. B. STRONG, of Chicago, said that, in a long experi-

ence, he had never observed that bovine virus acted more violently than the humanized variety.

Dr. COCHRAN, of Greenfield, was opposed to the use of humanized vaccine, on account of the danger of communicating syphilis.

Dr. JOHNSON, of Chicago, had studied the statistics of forty thousand vaccinations with humanized virus, done in the epidemic that succeeded the great fire in Chicago, and had not met with a single instance of the conveyance of any constitutional taint in the operation. There was a great deal in the art of vaccination; if properly performed, the operation was always beneficial.

The discussion was further continued by Dr. GILL, of Cleveland, Dr. S. J. JONES, and Dr. ANDREWS.

Afternoon Session.

BILATERAL PARALYSIS OF THE ABDUCTORS OF THE VOCAL CORDS was the title of a paper by Dr. H. A. JOHNSON, of Chicago, who laid stress on the limitation of the dyspnoea to inspiration. In illustration of the subject, a patient was shown on whom Dr. Edward Andrews had performed tracheotomy in 1881.

Dr. GRAHAM showed a patient on whom he had done the operation four weeks before. In that case the Durham and other fenestrated tubes could not to be used, and the speaker had devised one for the purpose.

MEMBERS BY INVITATION were announced by the Committee of Arrangements as follows: Dr. A. J. STONE, of St. Paul; Dr. C. J. PITNEY, of Jacksonville; Dr. R. F. DWYER, of Ottawa; Dr. G. W. JONES, of Danville; Dr. FRANK ANTHONY, of Sterling; Dr. E. R. WILLARD, of Wilmington; Dr. K. E. RICH, of Winona; Dr. C. A. PALMER, of Princeton; Dr. W. A. BYRD, of Quincy; and Dr. R. M. WILSON, of Lincoln.

THE TREATMENT OF DIPHTHERIA formed the chief theme of a paper read by Dr. J. P. MATTHEWS, of the Committee on Diseases of Children. After touching upon the modes of origin of the infectious diseases in general, the reader sketched his method of treating diphtheria, consisting largely of inhalations. The subject of the dietetics of infancy was also considered.

Dr. K. E. RICH, of Winona, accepted the germ theory, as did Dr. WHITMEYER, of Metamora. The latter had used chloride of lime, given in the form of spray, with benefit.

Dr. HAMILI, of Chicago, spoke highly of the efficiency of guaiacum.

In view of the favor with which the germ theory was received, Dr. DAVIS, of Chicago, asked what the effect would be of large doses of corrosive sublimate, which was now the favorite germicide.

Dr. E. P. COOK, of Mendota, had had a limited experience with the remedy, and had found that, while patients with follicular pharyngitis recovered, those with malignant diphtheria all died.

PHYSIOLOGY was the subject of a paper by Dr. A. WETMORE, of Waterloo. Dr. J. F. TODD, of Chicago, read the REPORT OF THE COMMITTEE ON ORIGINAL INVESTIGATION. Dr. F. C. SCHAEFFER read a paper ON FRACTURE OF THE GREATER TUBEROSITY OF THE HUMERUS.

Thursday—Third Day.

At the morning session the COMMITTEE ON MEDICAL LEGISLATION FOR THE INSANE reported progress, and was continued, for the purpose of presenting certain suggestions to the next Legislature.

The subject of the SUPPLY OF ANATOMICAL MATERIAL was brought up by Dr. A. B. STRONG, of Chicago, who spoke of the defective provision made by the laws of the State for that purpose. He asked for the co-operation of the profession through-

out the State in endeavoring to secure more satisfactory legislation in regard to the subject.

OFFICERS FOR THE ENSUING YEAR.—The nominating committee reported the following list of nominations, which was confirmed by vote of the society: President, Dr. DANIEL S. BOOTH, of Sparta; Vice-Presidents, Dr. S. C. PLUMMER, of Rock Island, and Dr. W. T. KIRK, of Atlanta; Treasurer, Dr. WALTER HAY, of Chicago; Secretary, Dr. S. J. JONES, of Chicago; Assistant Secretary, Dr. H. B. BUCH, of Springfield.

A REPORT ON THERAPEUTICS was read by Dr. RANSOM, of Rockford, who called particular attention to the diuretic properties of the *Euphorbia corollata*.

THE REPORT ON OBSTETRICS was read in abstract by Dr. H. K. CRAWFORD, of Monmouth, a member of the committee.

Afternoon Session.

Various reports were read and cases related, mostly bearing on obstetrics and gynecology, after which Dr. R. TILLEY, of Chicago, read a paper on the JEQUIRY BEAN AND ITS USE IN PANNUS.

SIMPLE RENAL CATAREH.—A report on this subject was to have been presented by Dr. I. N. DANFORTH, of the committee appointed for the purpose, but, the paper not being ready, the committee was continued for another year.

DRUGS AND MEDICINES was the title of a paper by Dr. B. F. CRAMMER, of Warren, who recommended that physicians should put up their own prescriptions.

MYOPIA.—A paper on this subject, by Dr. F. C. HOTZ, was read in abstract.

POTT'S DISEASE.—Dr. C. E. WEBSTER, of Chicago, read a paper on this affection.

PANCREATIC ANÆMIA was the title of a paper by Dr. C. W. EARLE, of Chicago, who related four cases.

MASTOID ABSCESS was considered in a paper by Dr. E. L. HOLMES, of Chicago.

PURULENT INFLAMMATION OF THE MIDDLE EAR was the title of a paper by Dr. H. GRADLE.

PRIZES.—On motion of Dr. WALTER HAY, it was voted to offer a prize of \$100 for the best essay on the treatment of diphtheria, and another of the same amount for the best tabulated statement of ten cases of any disease coming under the care of any one practitioner.

After voting to hold the next meeting in Springfield, the society adjourned.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held December 18, 1883, Dr. W. M. POLK, President, in the chair.

LARGE INTRA-UTERINE MYOMA REMOVED BY LAPAROTOMY.—

Dr. J. B. HUNTER related the following case: A woman, thirty-four years of age, came to him with an abdominal tumor which her physician had pronounced ovarian. It had first been noticed eight months before, and had grown rapidly, having reached about the size of a child's head. It seemed too hard for an ovarian tumor and too soft for a fibroid. The patient, who was unmarried, had always had scanty menses until since the appearance of the tumor, when the flow increased in quantity at the regular periods, and there was some flow during the intervals. Several of the surgeons of the Woman's Hospital examined her, and opinions were divided between a fibro-cyst, an extra-uterine fibroid, and an ovarian tumor. Laparotomy was performed on Saturday, December 15th, and, after a free incision had been made, a large tumor, believed to be a fibroid, was encountered. Several turns of an elastic ligature were thrown around the neck of the entire mass, and an incision was made, when it was

found that the mass was composed of the uterus greatly enlarged by the presence of a tumor within. The tumor was enucleated and withdrawn through an incision made into the uterus. A clamp was then put well down on the uterus, which was cut away and the abdominal wound closed around the pedicle. The patient had since done well. The tumor had not yet been examined by the pathologist. It contained a considerable amount of bloody fluid in cavities, but not a sufficient amount to give distinct fluctuation. The elastic ligature controlled hæmorrhage perfectly. Before the operation the probe had been passed into the uterus a distance of four inches, but could not be swept around.

Dr. G. T. HARRISON thought there could be no question but that the proper method of removing such a tumor was by laparotomy; the principal question which could arise was with regard to the method of treating the stump.

Dr. H. T. HANKS asked whether, had the exact nature and condition of the tumor been recognized, it would have been worth while to try treatment by ergot.

Dr. H. J. GARRIGUES did not think that ergot would cause a tumor of such large size to disappear.

A TRACHELORRHAPHY NEEDLE.—Dr. HANKS presented a needle for repairing the cervix. It possessed the advantage over that in ordinary use of having the concave side rounded and the convex angular, rendering it stronger and more suitable for introduction through cicatrized tissue. The smallest portion of the shaft was at the eye, thus admitting of easy passage of the needle when once the point had been passed and seized with the needle-holder.

Dr. HUNTER and Dr. BACHE McE. EMMET had used a needle answering to the description given by Dr. Hanks with advantage; it was probably the same needle.

CERVICAL MYOMA COMPLICATING PREGNANCY.—Dr. HARRISON had been called to see a woman, thirty-four years of age, who had been married eleven months. During the first five or six months of menstrual life the flow had been regular; it then became irregular, and during the last few years she had suffered from lumbar and pelvic pain and difficulty in urination. The pain grew in intensity. She was under the impression that she was pregnant, as during the past two months menstruation had been absent. On examination, an abortion was found to be in progress, and a large mass was felt in the vagina, the os uteri lying behind. The os was crescentic and distorted to the left. The ovum was expressed. After two months the tumor was removed by means of the scissors and the vulsella. Considerable hæmorrhage took place. Had pregnancy gone to full term, it was probable a good deal of difficulty would have been experienced in expelling the fetus.

SUPRAPERITONEAL MYOMA REMOVED BY LAPAROTOMY.—Dr. HARRISON also related this case, which was specially of interest from a diagnostic point of view. The patient was first seen by him eighteen months ago, at which time he could discover no neoplasm. In June last, however, he found a large mass filling Douglas's cul-de-sac, encroaching upon the rectum, and pushing the uterus forward against the pubes. It simulated an hæmatocèle, but the history did not correspond; the patient had only suffered a short time from obscure pain. Afterward she was unable to pass water, and it was necessary to use the catheter. The tumor increased in size rather than diminished. He then diagnosed ovarian tumor, and, as it was rapidly increasing in size, advised an early operation. Dr. Thomas coincided in the diagnosis and the necessity for an operation. At the operation the tumor was found to be a myoma, springing from the posterior face of the fundus uteri, and completely occupying the posterior cul-de-sac. Great difficulty was experienced in extracting the tumor from its wedged position in the pelvic cavity,

although it had no adhesions. The abdominal wound had to be reopened the next day in order better to secure the pedicle. The patient died of septicæmia and peritonitis.

Dr. BAGGE McE. EMMET referred to a case similar to the first one related by Dr. Harrison, in which he refused to remove the tumor, which was of large size and situated in front of the cervix, at the utero-vesical junction on the anterior lip of the cervix, through fear of leaving a large cavity and of subjecting the patient to the risk of septicæmia. The late Dr. Peaslee also refused to operate in the case.

Dr. HANKS said that he once removed a fibroid tumor from the posterior wall of the cervix, of about the size of the one presented by Dr. Harrison, and the pain and distress referred to it before its removal were very marked in that instance, being greater than in cases of tumor situated in the walls of the body of the uterus.

The PRESIDENT referred to a case similar to the second one related by Dr. Harrison, which illustrated the impossibility of lifting the tumor out of the pelvis. Before he got ready to remove the tumor the patient died of dysentery, which was apparently due to pressure of the growth upon the rectum. At the autopsy the adhesions were found to be so extensive that any forcible attempt at reduction would necessarily have resulted in tearing out nearly the whole pelvic viscera.

UTERINE FIBROID; INVERSION OF THE UTERUS; DIFFICULTY OF DIAGNOSIS.—Dr. ROBERT WATTS related the case of a woman who entered the Roosevelt Hospital with the history that for several months she had been losing a good deal of blood at irregular intervals, and that recently hæmorrhage had been quite profuse. On introducing the finger into the vagina, a tumor resembling a mushroom was encountered, the lower portion being rounded and the upper portion presenting a distinct shoulder. After the patient's condition had been improved, ether was administered, and a thorough examination was made *per rectum* and *per vaginam*, when it was easily determined that the uterus was inverted and a tumor was attached to the inner surface of the fundus. After apparently enucleating the tumor, reduction was attempted, but unsuccessfully. It was then found that only the shell covering the tumor had been removed. The entire growth was now easily enucleated and the uterus reduced without difficulty.

Dr. HARRISON spoke of the difficulty of diagnosis in these cases, and of limiting the operation to the growth itself. The late Professor Spiegelberg found, after supposed ablation of the tumor in a certain case, that he had taken away the fundus of the inverted uterus.

Dr. CLEMENT CLEVELAND believed it was maintained that this accident could not happen if the spoon-saw was used.

The PRESIDENT related a case which he had seen several years before, in which the cause of inversion—namely, the presence of a submucous fibroid tumor—was not recognized until after death. The patient was rachitic, and had a deformed pelvis. The vaginal tumor presented the exact appearance of an inverted and slightly enlarged uterus; not the least irregularity could be detected on its surface. This was a point which had been noticed by several physicians who saw the case in consultation. All attempts at replacement failed. The patient died of exhaustion, and at the post mortem the submucous fibroid was recognized. He believed that the only way in which the tumor could have been recognized during life would have been by microscopical examination, but even this might have failed.

LOCAL TREATMENT OF DIPHTHERIA BY BICHLORIDE OF MERCURY.—Dr. HANKS said that he had for two years been employing minute doses of corrosive sublimate internally in the treatment of diphtheria in children, and believed that he had obtained better results thereby than by the use of any other medicine.

But about two weeks ago he saw a child in whom the palate and tonsils had been completely covered with the diphtheritic exudation for two days previous. He administered corrosive sublimate, in one-one-hundred-and-sixtieth-grain doses, in a teaspoonful of water, every two hours, together with Hoffmann's anodyne in doses of one third of a drachm. He considered the child convalescent on the seventh day, but was sent for again on the tenth, and found the tonsils again covered with the membranous exudation. He then had the fauces sprayed every half hour by the hand atomizer, using a solution containing two grains of bichloride of mercury, one ounce of glycerin, and seven ounces of rose-water. The membrane entirely disappeared in the course of twelve hours. In another similar case, except that there had been no relapse, the bichloride spray produced the same result, the former internal treatment having failed. With the disappearance of the membrane, the patients went on to convalescence. He believed that the result was due to the local effect of the agent employed. He was in the habit of using fumigation with sulphur, also the other well-known methods of keeping the air in the sick-room free from the poison.

HENRY J. GARRIGUES, M.D.,

B. F. DAWSON, M.D.,

FRANK P. FOSTER, M.D., *ex officio*,
Committee on Publication.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of April 28, 1884.

The President, Dr. S. O. VAN DER POEL, in the chair.

THE PRESIDENT announced the death of Dr. Willard Parker, Sr., and, after some eulogistic remarks, said he would shortly appoint a memorialist. Dr. GARRISH moved that a committee of three be appointed to draft resolutions of condolence, to be sent to the family. Carried.

TRACHOMA, AND THE ETIOLOGY OF JEQUIRITY OPHTHALMIA.—Dr. JOSEPH A. ANDREWS then read a paper which he said there were two reasons for, the first being the fact of the introduction of a new therapeutic agent for the treatment of trachoma, and the second the new view of the etiology of jequirity ophthalmia advanced by Professor Sattler. The remarks upon trachoma were based upon the examination of eighteen healthy human conjunctivæ and forty cases of trachoma, while those upon the etiology of jequirity ophthalmia were based upon experiments upon a large number of dogs and rabbits and upon the examination of thirty-seven cases of trachoma with this end in view. Sattler professed to have discovered a micrococcus in the tissues which was the cause of the ophthalmia, but, while Dr. Andrews was convinced, from numerous examinations of blennorrhœal and trachomatous pus, that micrococci were constantly present, he had not been able to demonstrate their etiological relation to the disease; he had been unable to isolate a micrococcus, or any other variety of micro-organism, which was capable of producing it. He still thought it probable, however, that a micro-organism might be an important factor in the etiology, but he thought it should be sought for in the secretions rather than in the tissues. He then considered the influence of climate, sex, diathesis, and hygienic conditions in the production of trachoma, and stated that he believed the most important factor was bad hygiene. Trachoma was comparatively rare in those whose means permitted them to live well hygienically and in healthful climates. In southern Russia trachoma constituted thirty-five per cent. of all eye diseases, and this large percentage he thought could be traced to the small, filthy homes of the people. In New York and Brooklyn it constituted four and eight tenths per cent. of all ophthalmic cases.

The writer then considered the appearances in trachoma, his own observations being based upon the examination of fifty-six cases. In every case several of the prominences of the conjunctiva were excised, and in several instances the entire conjunctiva was examined after death. In all cases, at first, the epithelial surface was found smooth, not thickened, and the adenoid tissue was infiltrated with reticulated cells, the latter being not uniformly distributed. The tissue between the foci of infiltration might be quite normal, but in most cases it was slightly hyperemic. As a rule, at an early period he had noticed that the foci of infiltration had a round contour. The cells were glandular and closely packed together, but as yet there was no true anatomical boundary. He had never been able to find actual tubular glands in the human conjunctiva. He did not believe in the existence of special forms of the disease. In discussing the various points connected with the etiology and pathology of the disease, Dr. Andrews gave at some length the views entertained by different authors.

With regard to treatment, corrosive sublimate, on account of its astringent properties and its mechanical effect in removing the secretions, was useful in destroying bacterial growth and in preventing decomposition. Efforts heretofore had been directed to destroying the granulations by various means. He would not take time to enumerate all the means employed to combat and eradicate the disease, but would first speak only briefly of caustics. To destroy granulations their use might be correct enough, but they also destroyed parts which it was not desired to influence—in other words, when the granulations were destroyed likewise destroyed the conjunctiva. Caustics might yield good results in a few instances when employed with intelligence and prudence, but in the overwhelming majority of cases they had caused the patients a great deal of suffering, and finally brought about a condition which was even much worse than the original trouble. With the announcement of the discovery of a micro-organism in trachoma tissue, of course came the suggestion for the employment of a parasiticide, and corrosive sublimate was naturally seized upon. Sattler employed it in solution of one to twenty thousand in cases of granulations. He did not know whether he had used it in trachoma. The author had employed it in trachoma, and, even after he had come to the conclusion that there were no bacteria in trachoma tissue, he had continued to use it for its astringent and mechanical effects. When used in a solution of one quarter to one eighth of one per cent., it had considerable astringent effect. The solutions came away clear of micro-organisms, and were useful in cases exposed to filth. But the cases had to be watched very carefully, as even very weak solutions often produced a marked irritant effect upon the eyes.

Sulphate of copper in crystals was probably the most popular and generally employed agent in the treatment of granular conjunctivitis, but it was often used in a manner to aggravate the disease. Sulphate of copper, nitrate of silver, and subacetate of lead still preserved a conspicuous place in the treatment of trachoma, but they had to be used with much care and with intelligence. He had excised the cul-de-sac in three cases in which there was pronounced pannus corneae, the latter condition being favorably influenced by the operation. The whole of the cul-de-sac was excised without touching the tarsus.

The author then came to the subject of jequirity ophthalmia, and, after giving an account of the discovery of the use of jequirity in the treatment of affections of the eye, gave a summary of the results obtained with it in fifty-seven cases in his own practice. In only three of the number was it without result. Seventeen were partial cures, meaning by this that the granulations disappeared from the tarsal conjunctiva, but some

still remained in the cul-de-sac. In two of these cases subsequent treatment with nitrate of silver removed the granulations. In one instance the granulations disappeared from the tarsal conjunctiva, but remained in the cul-de-sac, and there was extensive ulceration of both corneae, a true diphtheritic inflammation with violent chemosis. The infusion here was used in the strength of five per cent., which, in view of the fact that the cornea in the first place was not affected, was entirely too strong. The patient was now, however, doing well except for impaired sight due to ulceration of the cornea centrally. In the remaining thirty-seven cases the result was complete cure, the granulations having disappeared from every part of the conjunctiva, the pannus, which had been very pronounced in the majority of cases, having disappeared, and the sight having improved in most cases from ability only to perceive light to vision equal to twenty one-hundredths, which was the best result so far obtained. These results showed that we had in jequirity a remedial agent of decided value, and, while it might not immediately destroy all the granulations, it diminished the pain and photophobia, and cleared the cornea. Jequirity ophthalmia differed from blennorrhoea in that the other eye could not be inoculated by the secretions from the affected one. After a single application of jequirity the phenomena developed slowly, the rapidity and the severity of the symptoms, however, varying with the strength of the solution. After eight hours the hyperæmia might be only slightly pronounced, but after twenty or thirty-six hours the eye presented a picture of pretty intense inflammation. The secretions were generally muco-purulent. On the third or fourth day the inflammation began to recede.

Dr. Andrews differed with Professor Sattler, who considered that jequirity ophthalmia was a bacterial disease, his reasons for differing with him being based upon certain experiments which he narrated.

Dr. T. R. POOLEY opened the discussion and limited his remarks chiefly to the treatment of chronic cases by jequirity. He had employed it in chronic cases among out-patients, and its effect had been almost *nil* when employed in weak solution; in greater strength it produced increased congestion and general signs of inflammation. He had reached the conclusion that it was a dangerous agent, and that it should not be used in any but marked cases in which other methods of treatment failed, and in which it was even justifiable to employ an agent that was liable to produce injury of the cornea. He had observed a number of cases in which it was being employed in two hospitals in Germany, and it was his opinion that the patients were receiving injury rather than good from the treatment. Diphtheritic inflammation of the conjunctiva could be produced by a strong caustic, by inoculation with pus, and also by jequirity. So far was he from thinking that in the latter agent we had a remedy of great and wonderful value, that he thought it would soon find its position with treatment by purulent inoculation, which had quite or very nearly gone into disrepute.

Dr. H. KNAPP thought that climate probably had more to do with the production of trachoma than other conditions, not excepting filth. The disease seemed more commonly to take its origin in low regions. With regard to jequirity as a therapeutic agent, he had used it in all kinds of trachoma in several hundred cases in dispensary patients. In about one-third-of-one-per-cent. solution it produced a mucous or muco-purulent discharge, but no marked therapeutic effect. A five-per-cent. solution, freshly made, invariably produced a croupous conjunctivitis. The result was, in the majority of cases, not only good, but brilliant, and he made parallel experiments, using this solution in one eye and copper in the other. The treatment with jequirity produced much quicker results than that with copper; but the latter agent, although it produced a slower change,

finally brought about recovery and caused less cicatricial tissue. In a few cases with jequirity treatment recovery could be said to be perfect, and that in a very short time. But, unfortunately, in one case purulent ophthalmia developed in one eye, which was also transmitted to the other eye, and both corneae were perforated. The child escaped, however, without very much affection of vision. The results of a three-per-cent. solution were excellent up to a certain point in some of the cases; but in two cases a single application had given rise to as severe a diphtheritic inflammation as he had ever witnessed. The cornea of one eye, in the first case, was perforated by the inflammatory process. In both cases the disease was transmitted to the other eye. Great care and cleanliness had been exercised in making the application. These cases had shaken his faith in the innoxiousness of the remedy, and it certainly was not uniform and entirely controllable. He would hesitate at present to employ it in any other class of cases than those in which other means had failed, and sight was very nearly destroyed.

Dr. E. GRUENING said the cases for which it was originally intended that jequirity should be used were limited to the severer forms—as inveterate pannus—and the solution employed was weak; but gentlemen had come to use strong solutions and in all sorts of cases, and he thought it was for that reason that it had come to be looked upon with less favor. He still believed that, in proper strength, used in hospital practice night and day for five days, prepared fresh, and employed in proper cases, the remedy was safe and efficacious. He himself had employed a five-per-cent. solution in two cases, and produced a diphtheritic inflammation. No bad result, however, had followed. In all the other cases, thirty-six in number, in which a weaker solution was employed, partial or total pannus being present, benefit had resulted.

Dr. R. C. BRANDEIS had once tried a three-per-cent. solution of jequirity in the treatment of an obstinate case of *ozæna*, taking special pains to limit the application to the desired point in the pharynx, and in the night he was called to see the patient in great haste, as he was said to be dying. He found the air-passages almost completely blocked by oedematous swelling of the mucous membrane which the solution had given rise to, and saved his patient only by scarification. The man recovered from the induced pharyngeal blennorrhæa in the course of about three weeks.

Dr. ANDREWS closed the discussion, and spoke of the variable effect of solutions of jequirity in different patients, and said we should always begin with a weak solution, say one per cent.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 14, 1884.

The President, Dr. GEORGE F. SHRADY, in the chair.

DOUBLE PLEURO-PNEUMONIA, PERICARDITIS, AND PERITONITIS.

—Dr. W. P. NORTHRUP presented specimens from a single case illustrating a set of lesions in two cases, double pleuro-pneumonia and pericarditis in one, and double pleuro-pneumonia, pericarditis, and peritonitis in the other. The children were taken sick the same day—at a time when there was a very abrupt change in the weather from a warm, relaxing atmosphere to a damp and raw day. He thought the cases of interest because neither child had had measles or scarlet fever, the apparent cause of the disease being a change in the weather.

Dr. LEVI thought that inflammation occurring in three of the serous membranes rather militated against the idea of the ætiology given by Dr. Northrup.

SUBMUCOUS FIBROID OF THE FUNDUS UTERI; REMOVAL BY THE SERRATED SPOON; PERFORATION OF THE UTERUS; DEATH.

—Dr. C. C. LEE presented a part of a fibroid tumor of the uterus, the woman having died under his care from an attempt to remove the growth by a method which had heretofore been considered free from danger. She was single, forty years of age, and had been sent to him to be operated upon in his service at the Woman's Hospital. About fifteen years ago she began to have excessive loss of blood at menstruation, and recurrent hæmorrhage at intervals. When she came under his care the tumor filled the upper two thirds of the uterus, which was dilated to the size of the seventh month of pregnancy. After several unsuccessful attempts at dilatation, the patient was anesthetized, and then dilatation was performed. It was very difficult to bring the uterus into a straight line above the pubes, it being strongly anteverted. The tumor was found to be sessile, and could be touched at about half an inch from the internal os. When it was brought into view it was found impracticable to embrace it with the wire of an *écraseur*, or to reach it with the scissors. An effort, therefore, was made at once to remove it by the process devised by Dr. Thomas—by the use of the serrated scoop. The operation consisted in slitting the cervix bilaterally, dividing the internal os sufficiently to gain free space for working, then grasping the presenting part of the fibroid with a strong vulsella, drawing it down, and endeavoring to insinuate the serrated scoop between the surface of the tumor and the inner surface of the uterus. This was extremely difficult, especially because of the anteverision of the womb. The house surgeon who assisted him by making counter-pressure constantly informed him that he could not feel the end of the scoop. Finding he could not detach the growth quickly in this manner, he determined to cut the tumor away piecemeal with scissors. In this instance the instrument, which in ordinary cases was perfectly safe, perforated the fundus and caused intra-peritoneal hæmorrhage. The woman did not fully react from the operation, and died within about twelve hours. At the autopsy it was found that the fundus, and also the posterior wall, of the uterus had been penetrated, and in the peritoneal cavity was fluid and clotted blood. He was not aware at the time when the womb was penetrated that he had gone beyond the base of the tumor.

Since this accident he had looked over the hospital records and found that two similar cases had occurred, one in the hands of Dr. Thomas and the other in the hands of Dr. Hunter, both patients dying. He related the case to show the dangers sometimes attending an operation which was usually considered perfectly safe. He did not believe there was any method yet devised by which such tumors could be removed without some danger to the life of the patient, and the woman ought to be informed of the risks before she was led to submit to an operation.

A POSSIBLE ÆTIOLOGICAL CONNECTION BETWEEN CEREBRAL HÆMORRHAGE AND A SMALL-SIZED AORTA.—Dr. F. FERGUSON presented specimens from the body of a man twenty-two years of age who had died in the New York Hospital. But a very meager history could be obtained. The patient was found one morning in the water-closet, at the place where he was employed, unconscious, paralyzed on the right side, with both hands clenched, and breathing heavily. When he was brought to the hospital the pupils were equal, but not responsive to light; there was paralysis of the entire right side, less marked in the upper extremity; he was unconscious; the respiration was slow and stertorous; the pulse 64. He continued in this condition until the following day, when the right pupil became much dilated, and the left side paralyzed. Just before his death the temperature went up to 108° F., death taking place three days after the stroke. At the autopsy all the organs were found healthy except the brain. A large effusion of blood was found

at the island of Reil, and all the convolutions were flattened. There had also been a large hæmorrhage within the brain on the left side, involving the ganglia. It was said the patient had been perfectly healthy up to the time of the accident. The case was of interest, because hæmorrhage in the brain occurred very seldom with a healthy condition of all the other organs, and without disease of the cerebral blood-vessels. The anomaly in the case related to the aorta, which was at least a third smaller than normal. This diminished size of the vessel might have been a mere coincidence, but Dr. Ferguson's attention was drawn to it from the fact that recently he had seen another case of cerebral hæmorrhage in which all the organs were healthy, the aorta, however, being a little less diminished in size than in the present case.

Dr. NORTHROP thought the aorta in the case presented by Dr. Ferguson was not much more than half as large as usual.

Dr. PORTER had seen a case of extensive cerebral hæmorrhage in a young man between twenty and twenty-five years of age in whom he could give no other explanation for the accident than long-continued malarial poisoning. There were also hæmorrhages into the spleen.

Dr. VAN SANTVOORT thought that, for want of a better explanation, we might suppose that in Dr. Ferguson's case the lack of development in the aorta was an indication of lack of proper development in the arteries generally throughout the body, making liability to hæmorrhage greater.

Dr. LEVI thought that defective elasticity of the artery attending its diminished size might make cerebral hæmorrhage more likely to occur.

Dr. PETERS related the history of a man who apparently brought on a fatal cerebral hæmorrhage by restraining his feelings while undergoing abuse.

Dr. CARPENTER inquired of Dr. Ferguson whether he had noticed a diminished size of the aorta in other cases than the two in which cerebral hæmorrhage had occurred.

Dr. FERGUSON said his attention had not been directed to the matter.

Dr. CARPENTER had noticed a small size of the aorta in at least two cases in which there was no hæmorrhage into the brain, but the diminution in size was not so great as in the case related by Dr. Ferguson.

CIRRHOTIC LIVER OF LARGE SIZE.—Dr. ELLIOT presented a specimen for which he was indebted to Dr. Boldt. The patient was a man, forty years of age, married, a butcher, who gave no history of syphilis, but not much addicted to drink, and had always been well except that during the past year he had suffered from chills and fever. In December last he noticed marked swelling in the right hypochondriac region, and respiration was somewhat interfered with. Ascitic fluid was drawn off. The man finally died of exhaustion. At the autopsy the special point of interest related to the liver, which was of large size, weighing ten pounds, the microscopic examination revealing a large amount of fat and an increase of the connective tissue.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of March 26, 1884.

PAROXYSMAL FEVER, NOT MALARIAL.—Dr. J. H. MUSSER read the following paper:

That non-malarial intermittent fever is of frequent occurrence few will deny. Such cases have come to the writer's notice so often that, especially as but little can be found in reference to this subject in medical literature, arranged in a systematic manner, he has deemed it of the highest practical importance to record his observations, for the purpose of eupha-

sizing the value of distinguishing these two forms of intermittent fever. In addition to the hurried narration of illustrative cases, a little time will be taken for the consideration of the mode of recognition of the many sources of origin of paroxysmal fever, and a moment given to the mechanism of fever. It will not be out of place, however, to make a brief reference to the writings of others in this connection, and first to that of the late Dr. Murchison.

In a most instructive clinical lecture,* he called attention to all the forms of paroxysmal fever, giving twelve varieties, viz.: 1. Malarious intermittent fever. 2. Certain cases of typhoid fever. 3. Certain cases of relapsing fever. 4. Pyæmia. 5. Fever from pent-up pus. 6. Fever from ulcerative endocarditis, with or without embolism. 7. Tubercular fever. 8. Fever from lymphadenoma. 9. Syphilitic fever. 10. Urinary intermittent fever. 11. Hepatic intermittent fever. 12. Intermittent fever from morphine.

In addition to examples under each division, he pointed out the clinical features and points of distinction in such detail that it would be supererogatory to enter upon such lines, save in the broadest manner, in this paper.

In the following pages, therefore, cases illustrating the second, fifth, sixth, seventh, and eleventh classes, respectively, of the above, will be recorded, and some new classes will be added, embracing cases of paroxysmal fever due to gastro-duodenal and pulmonary catarrh, to pent-up serum, to forming pus in a confined space.

Since this paper has been in preparation, a volume of the latest "St. Thomas's Hospital Reports" (vol. xii, 1881) came into the writer's hands. Of the many able articles contained therein there is one by Dr. Ord, entitled, "On some Cases of Pyrexia simulating Ague." He records a case of ulcerative endocarditis, and one of jaundice with obstruction attended by intermittent fever. Similar cases are detailed below, and hence it will not be necessary to more than refer to them. Cases III and IV of his list are very interesting, and worth repeating in abstract.

CASE III.—Female, aged fifty-eight. Most of life in Mauritius. After returning to England, suffered from what was called ague—shiverings, heats, and sweatings at irregular intervals. At first no pain, but finally increasingly severe pain, attended with vomiting, was felt in the left iliac region. The symptoms repeatedly recurred for months and were regarded as outbreaks of latent ague acquired abroad. Treatment by quinine and arsenic. She finally, after a severe paroxysm, passed a stone the size of a bean from her bladder. Instant relief followed, and six months passed away (to time of writing) without any return of fever or sweating.

CASE IV is more remarkable, and, for the possibility of its like appearing to us, it should be kept in mind.

CASE IV.—A man, aged thirty, never in the tropics, had daily attacks of high temperature, with shivering and sweating. He was sallow, worn, and emaciated. His liver was enlarged; his spleen not. He had syphilis. The fever would be reduced by quinine, but only for a time. Thirty grains of iodide of potassium daily cured him, the intermittent fever having been considered by Jenner, in consultation, a manifestation of syphilis.

I. The temperature curve of typhoid fever simulates intermittent fever almost always at some period of its course. During the first week of the disease it is a difficult matter to decide whether a true intermittent is present or not, while in the decline of the disease a distinctly intermittent type is generally recognized. During the period of convalescence one must be watchful that the transient fever which so frequently develops

* "The Causes of Intermittent or Paroxysmal Pyrexia, and on the Differential Characters of its Several Varieties," "Lancet," May 3, 1879.

may not be considered malarial. The temperature during the course of typhoid fever, with the convalescence from it, is, as Dr. Cayley puts it, *labile*. It rises and falls with only the slightest provocation, and frequently takes on an intermitting type.

The following is a rare case of typhoid fever, in which the temperature at the height of the disease was distinctly intermitting. Dying the sixth day of observation, it was noted that four days before death the patient had daily a congestive chill, followed by a very high temperature. The temperature on the morning of the first chill was 101.2° (F.), the evening 104.4° . The morning temperatures thereafter were on the second, third, and fourth days, respectively, 98.6° , 99.4° , and 96.2° , and on the corresponding evening hour 104.6° , 105.4° , and 106.4° , the latter two hours prior to death. It was considered a case of congestive malarial fever. The autopsy revealed the lesions of typhoid fever about the twelfth day of the disease.

II. It is well known that the fever from pent-up pus is frequently, almost constantly, of an intermitting type. An empyema has frequently been overlooked on this account, but it has never fallen to the writer's lot to have a case that could not easily be recognized. It was different in other cases of deep abscesses, however, and notably in a case—the true nature of which, Murchison says, is almost always overlooked—of hepatic abscess.*

The patient, a male, thirty-nine years old, had lived on the Susquehanna, near Harrisburg, and had had chills and fever daily, three weeks prior to admission to the hospital. When admitted he did not seem very sick; he had walked to the hospital, and was permitted to be up each day. He was slightly emaciated and his liver was enlarged. He had daily paroxysms of fever, but the sweating stage continued all night, being more prolonged than in malarial intermittents. He died of hemorrhage from the bowels one week after admission. The hemorrhage was found to be due to extensive ulceration of the large intestine, not suspected during life, on account of the occurrence of constipation. In addition, at the autopsy a large abscess in the right and two small ones in the left lobe of the liver were found.

The following table exhibits the temperature record, and shows that we should have considered more seriously the low febrile range:

	A. M.	P. M.
October 9th.....	99°	100°
“ 10th.....	99°	101°
“ 11th.....	99°	102.6°
“ 12th.....	99°	101.4°
“ 13th.....	99°	102°
“ 14th.....	99.6°	101°
“ 15th.....	98.4°	99°

The history of residence in a malarious locality, the temperature record, the absence of marked local symptoms and of intestinal disorders, favored malarial intermitting fever; the absence of enlarged spleen and the low temperature range negatived that fever.

A child was seen with a history of daily febrile paroxysms, suspected to be malarial. The child had a severe paroxysmal cough, however, and was losing flesh and strength rapidly. An examination revealed the physical signs of circumscribed pulmonary consolidation, and the mother related the swallowing of a tack some time previous. Ten days afterward, after a paroxysm of coughing, the tack and a large amount of pus were expectorated. The hectic soon lessened, the resulting cavity rapidly closed, and the patient's health was restored. Another example of deep-seated abscess.

Abscesses developing near mucous surfaces are oftentimes very puzzling, at least in their early period.

An abscess of the prostate gland, in a man forty-eight years old, was one of the most difficult to discern. The patient had been sick a

week, and when seen by the writer was in the midst of a febrile paroxysm. He had marked gastro-intestinal derangement, with dry, brown tongue, extreme malaise, daily febrile paroxysms, preceded by chilliness, and followed by profuse sweats, which continued in the night; in addition, a dullness of intellect was observed. Six days after the first visit urinary tenesmus was noticed, subsequently rectal distress; an examination revealed a distinct prostatic abscess. It is of interest to note that fever did not occur after the abscess had fluctuated, and hence that the forming stage of an abscess sometimes is attended with paroxysmal fever. The following exhibits the evening rise and morning fall, taken on different days:

13th, 4 P. M.	102.6°
14th, 4 P. M.	99.2° , cinch. anticipated.
15th, 12 M.	102° , cinch. in lessened doses.
16th, 12 M.	98.5° , cinch. in increased doses.
17th, 11 A. M.	98° , cinch. in increased doses.
18th, 5 P. M.	103° , cinch. in again lessened doses.
19th, 9 A. M.	98.6° , 5 P. M., 103° .

A febrile paroxysm was not detected after the 20th, and the table shows that cinchona merely prevented the paroxysms, but did not control them. The case was certainly difficult to analyze. The absence of enlarged spleen, the return of the fever after discontinuing cinchona, and the exhaustive sweats, repulsed the idea of malaria. The appearance of the tongue, the malaise, the headache, and the dullness of mind, with the fever range, made one consider typhoid rather seriously. On the sixth day (19th) after my first visit the local symptoms defined the lesion. The febrile action then ceased, but the local inflammatory condition continued. It would probably explain the cessation of fever with complete suppuration to say that the soft tumor was not so much an irritant as the hard mass prior to pus formation.

Not only must pent-up or forming pus be considered factors in the causation of a periodical fever, but confined serum or forming serous exudation may undoubtedly give rise to intermitting fever. A case of subacute pleurisy with effusion, in which there occurred in the course of the disease distinct intermitting fever, came under the writer's notice. The usual evening exacerbations were present, but in the morning the temperature had fallen to, or almost to, normal. So marked were the paroxysms that an empyema was suspected, and doubt only removed by paracentesis proving the effusion to be serous. Two similar cases have come to his notice in private practice, both in children. The one, a lad eleven years old, had a dry cough for three weeks, with afternoon malaise and fever. The attendant ordered quinine with but little benefit. An examination of the lungs revealed a large collection of fluid in the left pleural sac, which rapidly disappeared under treatment. The temperature was recorded but once daily for obvious reasons, but at times in the mornings, again in the evening. Invariably an evening rise and morning fall, were noted; but it never ranged higher than 102° , and there were no profuse sweats following. From the rapid disappearance of the fluid and the speedy renewal of the lad's health, the effusion was called serous and not purulent.

It may seem very trite to record such simple cases, but when, only lately, a child was seen in consultation, ill from a supposed meningitis, but truly so from an actual serous pleuritic effusion, one should feel that nothing is commonplace, and that it is the little things that need to be constantly dwelt upon. With this remark it may be stated that the fever of pneumonia may be intermitting. Later in the paper cases of catarrhal pneumonia will be referred to, but now the croupous variety is considered. Four cases, all in children, are recorded in the writer's note-book. Two of the cases were in his care from the first; two were attended by other physicians, coming to him later.

* "Trans. of the Path. Soc.," vol. viii.

In the first case he was egregiously deceived. The child, aged four, for five days was well to all intents and purposes in the morning, eating and playing about, with possibly only a slight cough. In the afternoon the temperature would rise to a great height (104.4°), and the child would be sick until midnight. Repeated examinations of the lung could not detect a pneumonia until the fifth day. He was misled by the absence of dullness and of bronchial breathing, and the occurrence of tympany over the affected lung, as has been rarely noted.

Case number two, of the same character, occurred in a girl seven years old. A chill, followed by high fever, with nausea and vomiting, substernal pain and cough, marked the onset. Seen the third day, her temperature in the evening was 104.2°, with the above symptoms intensified, and a very rapid pulse (140) and rapid respiration (48). Both the fourth and fifth days the temperature was normal in the morning, high at night. On the fifth day bronchial breathing was first noted at the right base; on the seventh day, dullness; on the ninth day resolution began; after the fifth day the fever was continuous. It seemed like a case of retarded pneumonia—as regards physical signs—according to the observation of Dr. Andrew Clark.

Following the outline indicated by Murchison, the next form of intermittent fever he discusses is that due to endocarditis. The following case* of ulcerative endocarditis, the febrile range of which was characterized by daily paroxysms, is of interest. There was no difficulty in recognizing the nature of the affection.

TEMPERATURE RECORD.

	A. M.	P. M.
21st.....	1—	103.4°
23d.....	100.2°	101.6°
23d.....	98.4°	99°
24th.....	98°	105.4°
25th.....	97.2°	103.2°
26th.....	99°	103°
27th.....	99°	100.4°

The writer observed it during life, and deems it worthy of being recorded in this connection.

It would be a great surprise to know how many persons, in the latter stages of phthisis, when giving a history of their complaint, say that it was preceded by malaria, or malaria broke them down. Over and over again is such a sad tale told us in the medical dispensary, and it is a matter of fact that not only do the laity but many physicians consider early cases of phthisis as malarial in nature, entirely overlooking the local troubles. When speaking of catarrhal fever, the subject will be adverted to again, but the cases of tubercular origin are sometimes none the less examples of intermittent fever, non-malarial. Repeatedly my notes show cases that had been treated for malaria in the early stages. Not only in the formation of tubercle in the lungs, but also in the brain, is the process accompanied by daily paroxysms of fever at times. One case that came under notice was particularly impressive.

The attending physician was going out of town for the summer, and left in the writer's care a little girl, five years old, in the fourth week of her fatal illness. She had always been a bright child, of nervous temperament and of tubercular diathesis. The illness was of four weeks' duration, marked in the early period by failing in flesh and strength; in the latter period by a chill or chilliness every evening, followed by a night of restlessness and fever. She never complained of headache, nor did she vomit, while her bowels were regular. Eight days before the present attendant saw her, her physician visited her, and attributed the symptoms to malaria; quinine was used. Four days thereafter headache began. The day the writer saw her (fourth week) she had had a slight convulsion and other unmistakable evidences of tubercular meningitis, of which she died in seventy-two hours.

How terrible to be compelled to tell a fond mother the inno-

cent malaria only simulated the baneful meningitis! The writer once made the mistake of attributing a periodical headache to malaria; tubercular meningitis was the cause of the pain. It is seen then, and is well known, that many manifestations of that disease are periodical.

The succeeding case of chronic hepatitis with enlargement illustrates that form of intermittent fever which is hepatic in origin. The diagnosis was made without difficulty, especially the differentiating from intermittent fever of malarial origin. The following abstract of the history includes all the important points:

George W.,* aged forty-three, German farmer, of Manayunk, contracted diarrhea during the war, which has always shown some tendency to return. Has had malaria; probably has had syphilis; otherwise been very healthy. Family history good. Admitted September 2, 1877, with well-marked jaundice; emaciated, and presented the symptoms of itching, dark colored urine, languor and sleepiness, and a small, slow, and feeble pulse.

The jaundice appeared gradually in February of 1877, preceded by several days of diarrhea. Since then marked dyspeptic symptoms, relieved by attacks of diarrhea; stools at times clay-colored, at times normal. Some edema of feet, but ascites never detected. October 2d, liver from fourth interspace to two inches below margin on deep percussion, margin smooth and resisting; no pain or tenderness. October 15th to 25th, uncontrollable hicough. Extreme exhaustion, rapid emaciation, deepening jaundice, semi-typhoid state; death, November 4th. Autopsy revealed the diagnosis to be correct.

The temperature record is noted with the remarks of Dr. Guiteras, whose resident physician the writer was at the time, on its curious range, in order to associate the case with a paper on fevers.

	Morning.	Evening.
October 21st.....	101°	98°
" 22d.....	98°	103°
" 23d.....	95.4°	100°
" 24th.....	101.4°	96°
" 25th.....	93°	101°
" 26th.....	95°	94.6°
" 27th.....	103°	98°
" 28th.....	95.2°	100°
" 29th.....	97°	98.4°
" 30th.....	97°	98°
" 31st.....	94.4°	96°
November 1st.....	99°	93°
" 2d.....	95°	96.6°
" 3d.....	91.4°	91°

"I find that every third temperature is pretty regularly a high one, the fall being very great in the two intervening temperatures; so that the rise and fall do not present the usual relations to the morning and evening hours. The curious range of temperature may be due to an intermittent absorption of effete products from the liver, or an intermittent arrest of the oxygenating processes going on in the liver, an arrest that must influence the general temperature, if we remember that in health the temperature of the organ reaches 106°."

In another paper† of the writer may be found reported a case of primary cancer of the gall-bladder:

Early, in fact almost until death, the attending fever was thought to be of malarial origin. The writer, as well as others, made the mistake. Until a few months before her death the fever was distinctly intermittent with chills; later it became remitting and then continuous. Although there were jaundice and occasional attacks of vomiting, there were no special evidences of localized disease. The spleen was enlarged, and so it was thought to be a miasmatic fever. The change in type, the extreme exhaustion, and the emaciation caused this idea to be abandoned. Until death it was obscure. A sufficient cause for the temperature range was found at the autopsy in a suppurative inflam-

* "Trans. of the College of Physicians," Keating.

* "Trans. of the Path. Soc.," 1878.

† *Ibid.*, 1881.

mation of the bile ducts, and the healthy portion of a gall-bladder, the remainder of which was the seat of carcinoma. One can see now that more stress should have been laid on the occasional vomiting, the slight hepatic tenderness, the previous history of biliary colic, the persistent and deepening jaundice, and the great emaciation, and thereby a diagnosis been made between miasmatic fever and suppurative fever.

Here will briefly be recorded two cases illustrative of the fever of hepatic origin, not because of one difficulty in their recognition, but because one of them, the first, had been treated for malaria.

This one was the case of M. Mc., aged fifty, who suffered at irregular intervals, often repeatedly in a week, with attacks of severe pain in the epigastrium accompanied by a chill and followed immediately by fever and sweat, and in a few days by jaundice. He died several months afterward, in the writer's care, of obstructive jaundice from impacted calculus, after two of these attacks in succession.

When these attacks occurred, every day or every second day, it can be readily seen how a mistake in diagnosis could have been made. Attention to details, however, with the therapeutic test would have been good aid. The paroxysms, by the way, were no doubt due to the irritation of the discharging calculus. The other case was that of an impacted, possibly ulcerating biliary calculus. The history of the case, the jaundice and the local inflammatory changes prevented one from erring.

In addition to the preceding examples of paroxysmal fever, a series of cases will be adverted to which Murchison has not referred to in his lectures, and with the nature of which it is of the utmost importance to be perfectly familiar. Reference is made to catarrhal inflammations of pulmonary, the gastro-intestinal, and the genito-urinary mucous membranes, with secondary intermitting fever resulting therefrom. Especially important is it, for, unless the fever is traced to its source, grave organic mischief will become so pronounced as to lead to disastrous consequences. Witness a phthisis following an overlooked bronchial catarrh.

It savors much of the teachings of Broussais to say that catarrhs are the source of fevers, but there is no doubt that just so far as the philosophic Frenchman erred in that extreme, so do we at the present day err in the other, by attributing most fevers to a zymotic process. Professor Pepper,* in a timely and instructive address, calls attention to these dangers: That fever is too often considered as due to a zymosis; that zymotic diseases are of self-limited duration; hence that active treatment is of no avail, and especially that the accompanying catarrhs are neglected. Further, on account of these beliefs, the catarrhal process that is often the cause of a fever is overlooked, and thus the commencement of serious local disease is not thwarted.

Reference was made, in another portion of the paper, to the frequency of assuming early tubercular disease of the lung, accompanied by intermitting fever, to be due to a miasmatic fever. The following notes illustrate the clinical course of some cases of catarrhal disease of the air-passages, which often are the forerunner of so-called catarrhal phthisis. Other examples have been noted, in which there has been only slight catarrhs, without hemorrhage, much cough or emaciation, with attendant fever, occurring in paroxysms.

One of the most typical cases of paroxysmal catarrhal fever came under observation in August, 1880, and was the first to lead to the investigation of this question.

A man, forty years old, of previous good health and habits, of good family history, and residing in a healthy neighborhood, sought advice

for "chills." Daily at 11 A.M. he would have a chill, followed by fever and sweat. The entire paroxysm continued until 6 P.M. His digestion was impaired, and his bowels were constipated. The usual treatment was employed. He reported twice that the chills had ceased to return at once when the medicine was finished. He also reported that his sweats continued throughout the night, and that he was losing flesh and strength. At the third visit he was much dissatisfied, for a former slight cough had grown more pronounced, he had bloody mucous expectoration, and the chills continued. Upon careful examination, a distinct area of consolidation at the root of the right lung, with attending blowing breathing, and some subcrepitant râles were found. Active treatment was determined upon, and in six weeks the patient was cured. He has followed his occupation ever since (engineer), is heavier than he ever was, and in perfect health.

Further: A young miss of twenty years, the past winter, was conducted through an attack similar in many respects. Originating in a severe cold, with harassing cough, chest pain, no expectoration, and with loss of appetite, nausea, and constipation; she lost flesh, and had, the first two weeks of her illness, daily morning chilliness, fever in the afternoon (102°), followed by an exhaustive sweat. During this time the physical signs of a bronchitis were present, with marked localization of the inflammatory process at the right apex. A day of undue exposure and exertion was followed by a severe chill and rapid rise in temperature, with distinct evidence of catarrhal pneumonia at the location indicated above. Chills and fever daily, profuse sweats, emaciation, and gastric derangement were prominent for two weeks. The former symptoms then subsided, but it was fully two months before the lung cleared up, and the patient gained flesh and strength. The family and friends constantly reiterated their opinion that the attack was primarily malaria.

Probably the most difficult, the most occult form of paroxysmal fever of catarrhal origin to recognize is the one due to that lesion of the intestinal tract. There are no physical signs to betray it, and generally the intestinal derangement is considered secondary to the febrile process. It seems impossible to distinguish the specific from the catarrhal form, save by the presence or absence of the enlarged spleen, the change in the urine of malarial subjects and of the blood when the malaria is chronic, especially when a recent writer tells us that epigastric pain, vomiting, and constipation are symptomatic of malaria in children. The following record is a typical illustration of this variety, and is a most instructive and pertinent case:

E. M., aged five. Inherits a tubercular diathesis from mother. During November and December of 1881 had no appetite, was obstinately constipated, and lost flesh. She became delicate and puny-looking. The latter part of December she was seen on account of the above symptoms and of an irregular fever. The course of the fever was at first difficult to determine, but finally it was found to be distinctly intermittent. She was visited at various hours of the day, and found that at 11 A.M., daily, she would be cold, shivering, and begging for extra covering. Her extremities, nose, and ears would be very cold, her lips bluish, and the features pinched. At the same time the pulse would be rapid, and the temperature in the mouth 102°. In a half-hour the exterior warmed, and very soon she would have high fever, the temperature rising to 103°-103.2°. The febrile stage lasted three or four hours, and was not followed by profuse perspiration. Save weak and without appetite, by night she would be perfectly well. Quinia was given in continuous doses at first, afterward in doses to anticipate the paroxysm; but without any good effect. The paroxysms were lessened in severity only while the already poor appetite was made poorer and the digestion more impaired; for two weeks an anti-periodic treatment was continued, and at the same time laxatives were used to overcome the constipation; at this time (January, 1882) she was thin and worn, the paroxysms of fever were daily, the appetite was very poor, the breath offensive, the tongue covered on the dorsum with a yellow-white fur, pointed, and with no papillae; vomiting occasionally occurred, and always some pain after eating; the bowels remained obstinately constipated. It seemed to me, after a time, the fever was a

* "On Some of the Relations of Catarrhal Affections," "Trans. of the Am. Med. Assoc.," 1881.

secondary matter, that the gastro-intestinal disorder was primary, and that such disorder was subordinate to the diathetic constitution. Hence she was placed on small doses (one eighth grain) of calomel with bicarbonate of sodium (five grains) every three hours. In three days cod-liver oil with syrup of the hypophosphate of lime was added to the treatment. At once she began to improve; her appetite first, then her bowels became more regular. In two weeks the child rapidly improved under this treatment, after being treated previously for more than two weeks for malaria. It may be added here that twice or three times E. became constipated with similar febrile symptoms noted above, and that the parents, without my advice, cured her with the cod-liver oil mixture.

A case very similar to this was also seen. It is useless to report the details of the case; remedies directed to the gastro-intestinal catarrh, with accompanying intermitting fever, effected the cure.

A case of stricture of the pylorus, in its course, at one time presented daily chills and fever. Quinine did not control the paroxysms. During the time of the fever, and for a week afterward, the stools of the patient were composed of mucous or membranous casts of the intestinal canal or of a pulaceous mucoid discharge.

These cases incontestably prove the proposition that intermitting fever is often due to catarrhal inflammation of the intestines, and that remedies directed to this locality alone will cure the disease.

This clinical record will be closed by the report of an observation of a case, the nature of which is somewhat obscure. It is not given, therefore, without some misgiving. It appears that the only title that could be applied to it would be paroxysmal fever of neurotic or hysteroid origin.

The patient was twenty-five years old, of a rheumatic diathesis and nervous temperament. She presented a history of "chills and fever," recurring at irregular intervals for two years. The paroxysms were of the quotidian type and the attacks lasted one or two weeks. Considered to be malarious; quinine or cinchona was always given by her attendant, and the usual remedies for malarial toxæmia used, without cutting short or preventing the attacks. The writer attended her through two attacks. They were of the following nature: Preceded by dyspeptic symptoms for a few days, a violent chill attended the onset of the attack, accompanied by severe headache, with tender spots and one or more localized points of pain in the body. In one of the attacks the pain with the first chill was fixed at the end of the spine with exquisite tenderness; in another it was in the epigastrium. The chill was an hour in length and followed by fever. With the fever the face would flush, the eyes "burn," and the skin be hot and dry. The temperature would rise to 103° or more, the pulse be full, bounding, rapid. Evidences of gastric catarrh with constipation were also noted. During the paroxysm the most pronounced emotional disturbances were manifest, so that had fever been absent it would have been without difficulty considered a case of hysteria. A sweating stage of two hours followed the fever.

The paroxysms recurred daily for a week, but with the repetition of each one the pain would be seated in another portion of the body—in the occiput, the shoulder, or the knee-joints—while the emotional disturbances would be also present. The pain was described as unbearable, and could not be influenced by almost incredible doses of the usual anodynes. Quinine was given in enormous doses in the first attack, without any beneficial influence.

The fact that the paroxysms occurred toward night and that they were accompanied by hysterical symptoms of a high degree, the inutilty of quinia and the absence of enlarged spleen rendered the opinion that the case was of neurotic origin probable.

The second attack was very similar. Vomiting was, however, a more persistent symptom. The duration was about one week, and it appeared to yield to remedies addressed to the hysteria and the gastric irritability. The whole tenor of the patient's life has changed since then, so that for two years she has not had a return of the supposed malaria, notwithstanding she is exposed to the same malarious influences.

Time will not permit a review of the various affections in detail, in order to establish a differential diagnosis between these simulative disorders and a true intermittent. Any attempt at a positive diagnosis of paroxysmal fever, however, should not be made without keeping in mind the following proposition: In the first place, one would say that, given a case with a chill and fever, a diagnosis of intermittent ought not to be made from the nature of the first paroxysm, unless it be vital to do so, as in a pernicious intermittent. Then, if such a case is presented that yields but partially to anti-periodics, they should be discontinued and a fresh start in the diagnostic inquiry taken.

In order to fully establish a diagnosis, a careful study of the antecedents of the patient should be made relative to previous health, habits, place of residence, and family history. Then, in favor of malarious intermittent, we should, after this study, expect a morning hour for the chill (Flint), the well-known changes in the composition of the urine, and, if chronic, the enlarged spleen and the pigment granules in the blood. If with one or more of these favorable factors present we could exclude all possible source of organic disease, by an examination of each individual organ, the blood (leukæmia), the eye ground (tuberculosis), the lungs, liver, and gastro-intestinal tract, we would be warranted in the diagnosis of malarial intermittent.

It seems, further, to be of value to note that emaciation of a high degree is more common in non-malarious intermittents.

The same may be said of exhaustion. The latter occurs to a certain degree, and is attended with a pronounced anæmia, so easily recognized as of malarial origin. Then, too, a long sweating stage and a low febrile range rather disprove the presence of the malarious influence.

Enlargement of the spleen is not to be considered, in acute intermittents, as of little moment. In a series of twelve cases of intermittent in children, eight presented the enlargement, which had subsided a year after the first examination.

There is but little doubt that fever is of neurotic origin, and the examples which have been recorded to-night more aptly illustrate this cause than any other class of cases. The profession is so thoroughly imbued, however, with the idea of no fever, unless a zymosis or blood-poisoning, that it is of practical value to refer to the mechanism of fever briefly. As shown by others, disastrous results oftentimes ensue by addressing means to the cure of a zymosis, or by passively allowing a febrile process to continue its supposed self-limited course, when actually a zymosis was not present, and remedies otherwise applied would have been beneficial. The reference to the mechanism, therefore, is to show that often fever is of a reflex origin due to peripheral irritation—a neurosis.

The element of intermittency itself is a powerful argument in favor of its neural origin. This is not the time to engage in philosophical speculation, or to demonstrate the relation of the fundamental principle of the rhythm of motion so grandly elaborated by Spencer; suffice it to say that to no other set of tissues or systems could we look but the nervous system for an explanation of intermittency. Aside from this, however, in the masterly study in morbid and normal physiology by Wood, on the mechanism of fever, we find sufficient argument and proof "that a depressing poison or a depressing peripheral irritation, acting upon the nervous system which regulates the production and dissipation of animal heat," causes fever.

Among the illustrations presented to-night there are some which strongly indicate the reflex origin of fever from peripheral irritation; witness the case of vesical calculus or of gall-stone. By what other supposition could the phenomena be explained? Likewise, though with an element of doubt intermingled, in the cases of gastro-intestinal catarrh, the fever may be considered as due to reflex processes. In the other cases the

fever is, no doubt, due to the absorption of a poison which acts upon the nervous system, and, as opposed to Charcot and Billroth, one would think that the phenomena of intermittency are due not to paroxysmal discharges of pus or poison into the blood, but to rhythmical responses of the nervous system to a constantly acting poisoned blood.

HENRY LEFFMANN, M. D., *Reporting Secretary.*

Miscellany.

THERAPEUTICAL NOTES.—*The Symptomatic Treatment of Typhoid Fever.*—The "Progrès médical" cites the following from a work on clinical medicine recently published by M. Gueneau de Mussy:

For allaying *pains in the limbs and cutaneous hyperesthesia*, the author recommends the employment of the following liniment:

"Baume tranquille".....	100 parts;
Rousseau's laudanum,	
tincture of belladonna.....	aa 15 "
chloroform.....	10 "

["Baume tranquille" is an infusion of a great number of narcotic and aromatic plants in olive oil. One hundred and twenty-eight grammes, each, of the fresh leaves of belladonna, of hyoscyamus, of dulcamara, of tobacco, of the poppy, and of stramonium are boiled over a slow fire in 3 kilogrammes of olive oil. After standing for two hours, the mixture is strained with expression, and, while yet warm, is poured over 32 grammes, each, of the dried tops of absinthium, of lavender, of hyssop, of marjoram, of water-calamin, of balm, of St. John's wort, of rue, of sage, and of thyme, and of the dried flowers of elder and rosemary. It is then allowed to macerate for a month in the sun, in a closed vessel, after which it is strained, decanted, and kept away from the air and light.

Rousseau's laudanum is an aqueous solution of opium, which is fermented with yeast, and then distilled several times.]

For *persistent insomnia* M. Gueneau de Mussy gives a teaspoonful of the following mixture at bedtime, to be repeated every two hours until sleep results:

Linden water.....	50 grammes;
orange-flower water.....	40 "
mint water.....	10 "
cherry-laurel water.....	5 "
syrup of codeine or of morphine.....	25 "
bromide of sodium or of potassium.....	4 "

To *prevent bed-sores*, he paints the parts once or twice a day with collodion and castor-oil, with equal parts of alcohol and white of egg beaten together, or with "traumaticine" (a solution of gutta-percha in chloroform—4 parts to 30). If an excoriation forms, the following ointment is applied:

Cerate or cold cream.....	30 grammes;
extract of cinchona.....	1 to 3 "
precipitated oxide of zinc.....	1 gramme;
watery extract of opium.....	15 centigrammes.

For *phlebitis*, the following application is made along the course of the affected vein:

Purified lard.....	30 grammes;
watery extract of opium.....	
extract of belladonna.....	} aa, 3 "
extract of hyoscyamus.....	
extract of conium seeds.....	

In addition, poultices are applied.

The Active Principles of Ergot.—At a recent meeting of the Berlin *Gesellschaft für Geburtshilfe und Gynäkologie* Dr. M. Marckwald gave the results of a number of experiments made by him, in the physio-

logical institute of that city, with ergotin, ergotinin, and sclerotinic acid. Practically, he had found ergotinin inert. Both ergotin and sclerotinic acid acted efficiently, and he would consider the latter and its salts preferable, on account of the small size of the dose required, were it not for their irritant action. Dialyzed ergotin, prepared from good material, he regarded as thoroughly trustworthy, and not liable to produce inflammation when used subcutaneously.

Burnt Alum in the Treatment of Intermittent Fever.—Dr. A. Sawinsky recently reported to a Russian medical society ("Deutsche Medizinal-Zeitung") that he had tried the use of burnt alum in twelve cases of intermittent fever, and successfully in each instance. He gave the remedy in doses of eight grains twice a day, and he found that it was well borne even in doses of twenty-four grains, provided a glass of water was drank after the dose.

THE "DICTIONNAIRE DE MÉDECINE."—Professor Ch. Robin writes to the Paris medical journals asking them to give publicity to the fact that the new edition of the dictionary edited by the late M. Littré and himself has not been revised by him, in consequence of which he thinks that the publishers were not warranted in inserting his name on the title-page.

THE MASSACHUSETTS MEDICAL SOCIETY.—The one hundred and third annual meeting will be held in Boston on Tuesday and Wednesday, June 10th and 11th. On Tuesday, at noon, the following communications will be presented at the building of the Harvard Medical School: Methods of Instruction and Research in Physiology, with Demonstrations, by Dr. H. P. Bowditch, of Boston; Modern Methods in Anatomy, with Demonstrations, by Dr. Thomas Dwight, of Boston. At the afternoon session, in Huntington Hall, Dr. G. W. Gay, of Boston, will read a paper entitled *The Plaster Posterior Splint in the Treatment of Fractures of the Leg, with its Practical Application*. At the Wednesday morning session the following papers will be read: A case of Chylous Deposit in the Abdomen, by Dr. F. Nickerson, of Lowell; The Pitch of the Percussion Sound, by Dr. L. Huntress, of Lowell; Sanitary Forest-Culture, by Dr. J. F. A. Adams, of Pittsfield; Weight as an Indication of the Character of Risks for Life Insurance, by Dr. J. Seaverns, of Roxbury; Communications from the Reporters of the District Societies. The annual discourse will be delivered at noon, by Dr. John Crowell, of Haverhill.

NIAGARA UNIVERSITY.—The following is an extract from the bill lately passed empowering the university to grant medical degrees, to which we recently made brief allusion: . . . "and the said college shall have the right to maintain a medical department and any department of learning that is maintained by any college or university in this State, and may maintain any department thereof, and enjoy and exercise all or any of the powers, rights, and franchises thereof in the county of Erie; and the trustees of the said college shall have the power and right to grant and confer any degree which may be or is granted and conferred by any college, university, or other institution of learning in this State legally authorized so to do; and every diploma given in testimony thereof shall entitle the possessor to all the immunities and privileges which by law or usage are allowed to possessors of similar diplomas granted by any college, university, or other institution of learning in this State. And the trustees of said college may grant and confer the degree of doctor of medicine; but only upon the recommendation of the board of medical professors of said college, and of at least three curators of the medical profession fully and legally qualified to practice medicine and surgery, to be appointed by said trustees, and which curators shall not in any manner be connected with said college; but no person shall receive a diploma conferring such degree unless he be of good moral character and of the age of twenty-one years, and unless he shall have a good English education, and shall have pursued the study of medicine and the sciences connected herewith at least three years after the age of sixteen years, and received instruction from a physician and surgeon legally authorized to practice his profession, until he is qualified to enter a medical college, and shall also after that age have attended at least three complete courses of lectures in the medical department of some legally incorporated university or medical school, the last of which courses shall have been so attended in the medical department of said college."

Original Communications.

OVARIOTOMY.

By JAMES B. HUNTER, M.D.,

SURGEON TO THE WOMAN'S HOSPITAL; PROFESSOR OF GYNECOLOGY IN THE
NEW YORK POLYCLINIC, ETC.

Preparation of the Patient.—An operation having been decided upon, a few days should be devoted to the preparation of the patient. If she has traveled some distance, time should be allowed for rest. All family affairs should be disposed of early, and nothing that can cause anxiety should be left till the last day. Special care must be taken to have the bowels thoroughly but gently opened, and for this purpose mild aperients are to be given every night for several nights. This is much better than trusting to a powerful cathartic given once or twice. It is quite possible for the patient to have a movement of the bowels every day, and yet to have a quantity of hardened fecal matter impacted in the lower bowel, the expulsion of which subsequent to an operation sometimes causes great pain and disturbance, and even a high temperature. This matter should therefore always be given particular attention; both patient and nurse may be mistaken in supposing the bowels to be thoroughly open when they are not so. The urine should be examined more than once. The presence of albumin in any considerable quantity greatly increases the danger of prolonged anesthesia. If time permits, a hot bath, followed by anointment with oil or vaseline, should be given by a skillful nurse every night for a week before the operation, to insure the fullest activity of the skin. Nourishing and easily digested food is to be given at regular intervals. Stimulants are very rarely necessary, and the patient is generally better without them. If she suffers pain it should be relieved by opiates, and if she is wakeful the bromides should be given at bed-time. Out-door exercise should be taken if possible, and the mind pleasantly occupied, and diverted as much as possible from the operation and its details. A large enema of hot water should be given twelve hours before the operation. Absolutely no food is to be allowed for five hours before the administration of the anæsthetic. It is better not to let the patient pass the urine immediately before the operation. Its presence in the bladder renders that organ more conspicuous, and it is therefore less likely to be injured.

The Operating-Room.—The room in which the operation is to be performed should be the object of special care for some time beforehand. It should have no stationary wash-stands, and there should be no water-closet adjoining. The furniture it contains should be limited to what is absolutely necessary, and should be as plain as possible. Carpets, woollen curtains, and upholstered furniture are all objectionable, and had better be dispensed with. If the walls are not papered, they as well as the ceiling and floor are to be thoroughly washed with hot carbolized water. Papered walls can not be washed in the same way, but they can be cleansed by passing over them a cloth damped in some anti-

septic solution. Two days before the operation the room should be closed and fumigated by the combustion of sulphur, or the elimination of chlorine gas. After this the room is to be thoroughly ventilated. For an hour before the operation the room is to be sprayed with carbolized water. The moisture tends to precipitate the floating particles and purify the atmosphere. The temperature of the room should be raised to 75° F., and maintained there during the operation. It is safer to have it above that point than below it.

All the precautions recommended in the preparation of the apartment may not be practicable in every case, but, if their importance is insisted on, they will not be found to present much difficulty, as they certainly do not involve much expense.

Instruments.—The following instruments, if carefully selected, will be found sufficient for all ordinary cases of ovariectomy: One scalpel; two small tenacula; one narrow and one broad director; one pair of scissors; six pairs of pressure-forceps; one trocar, medium size, curved or straight; one male sound, No. 6; two large tenacula; two Nélaton's forceps; two retractors; two needle-holders; needles; twelve sponge-holders; glass drainage-tubes; clamps; Paquelin's thermo-cautery.

In addition to the foregoing, it will be necessary to provide silk and catgut ligatures of various sizes, including several long and very strong silk ligatures for the pedicle. Silver wire, No. 26, is needed for closing the abdominal wound. One dozen hand-sponges should be provided, and the same number of small sponges for the holders. Also rubber adhesive plaster, and antiseptic dressings. As the operation of ovariectomy is one full of surprises, it is well to be provided with a clamp of extra size, as devised by Dr. Thomas for cases where it is necessary to remove a portion of the uterus, and also with Thomas's hard-rubber double drainage-tube, which is invaluable in certain cases where the cyst can not be wholly removed.

The only other appliances necessary are a tub or other large vessel to place under the table, two or three small basins, a large piece of rubber cloth, a roll of fine cotton wool, and a broad bandage to complete the dressing. A rubber or lead coil, for refrigeration, should be in readiness for use at any time after the operation.

During the operation the instruments are to be kept in a tray or shallow dish and covered with a five-per-cent. warm solution of carbolic acid. The bichloride solution should never be used for instruments. It not only injures them by destroying their polish and dulling their cutting edges, but the solution itself is decomposed and rendered inert by contact with metal, the mercury being deposited upon it in metallic form.

The silk ligatures may be kept during the operation in a solution of bichloride, one to two thousand, or in a five-per-cent. solution of carbolic acid. It is best to keep both silk and catgut in jars or wide-mouthed bottles, with small apertures through which the ligatures are withdrawn as needed for use. When not in use, the antiseptic solutions in which the ligatures are kept should be poured off and replaced by

alcohol, as the solution of bichloride weakens the silk and renders the heaviest ligatures unreliable.

The solutions of bichloride and of carbolic I formerly had made with distilled water, but I now use exclusively water taken from a boiler supplying steam for an engine. If it is a low-pressure engine, the temperature of the water will have been raised about fifty degrees above the boiling point. In a high-pressure engine the temperature of the water in the boiler is much higher. The purity or impurity of the water used at operations is, in my opinion, a frequent source of danger, and may easily invalidate all the other antiseptic precautions. Some forms of bacteria are known to survive a temperature of 212° , but are entirely destroyed by a higher temperature. It is therefore desirable to obtain water for antiseptic solutions that has been subjected to the purifying influence of a very high temperature; and water from the boiler of an engine, which can be easily obtained almost anywhere, is probably the purest that is available. Neither the water nor the solutions made with it should be exposed to the air unnecessarily, but should be transported and kept in demijohns or other glass vessels until required for use.

Anæsthetics.—Ether is the best and safest anæsthetic, but it should be administered in such a manner and with such care as to obtain the desired result with the smallest quantity possible, and with the least discomfort to the patient. This is most readily accomplished by the use of Allis's inhaler, which, if properly managed, supplies the necessary amount of air in combination with the vapor of ether, and is very much better than any form of cone, or any other inhaler I have tried. The patient should be prepared for the effects of the ether by assuring her that after a few moments, if she breathes boldly, she will experience no unpleasant sensations. She should lie upon a bed or couch, with the head raised by a single pillow; the room should be kept perfectly quiet; she should then be asked to breathe deeply and rapidly a few times through the inhaler before ether is put into it. The inhaler is then to be saturated with the anæsthetic and placed over the mouth and nose, and the patient urged to breathe rapidly. If she pushes it aside it should be quickly replaced at the moment before an inhalation. The inhaler is then to be kept constantly wet with ether, care being taken not to allow it to run through on the patient's face or neck, and not to close the opposite end of the inhaler. From five to ten minutes will generally suffice to render the patient entirely unconscious, and she can then be placed on the operating-table. A small quantity of ether uniformly administered will then keep her under its influence. I now invariably use Squibb's ether, having had no satisfactory experience with any other. The art of giving ether in the best way is a valuable accomplishment. It makes a vast difference to the operator if this duty is so performed as to relieve him of all anxiety. If, on the contrary, the patient is at one moment recovering from the effects of the ether, and at the next snoring and livid, the operator's attention is necessarily distracted, and it is impossible for him to devote himself entirely to the work before him. Therefore the assistant who administers the ether should attend to nothing else, and should take no interest whatever in the operation.

The Operator and Assistants.—The possibility that the operator may himself convey to the patient the germs of disease should never be lost sight of. He should not on the day of the operation have attended any case of a septic nature, as peritonitis, fever, or erysipelas, or of any contagious disease, or have dressed wounds of any kind. All other precautions will be in vain if the most scrupulous attention is not paid to personal cleanliness on the part of the operator and his assistants. Immediately before the operation the hands should be thoroughly washed in hot water, with soap and a stiff nail-brush; and afterward washed in the bichloride solution, the nail-brush being used in that also. The same ceremony is to be performed by all the assistants. No spectators should be present who have been making post-mortems, dissecting, or attending any contagious diseases, as the air of the room might be thus infected. Especial care is also to be observed regarding the nurses in attendance. The antiseptic precautions recommended should be carried out in the minutest details, and, if possible, under the personal supervision of the operator himself. An error on the safe side involves at most some trifling inconvenience; an error on the other side may cost the patient her life.

The Operation.—The patient, having been anæsthetized on a bed or lounge, is placed on the operating-table, the legs flexed and the feet resting on a chair or other support. A blanket is first placed under the legs and pinned around them. Another small blanket is fastened round the upper part of the body; the hands and arms are protected by towels or loose sleeves and secured in a convenient position by pinning, so as to be out of the way. The operator stands on the patient's right, the first assistant directly opposite. The second assistant stands to the left of the first, and takes charge of the instruments. The third assistant stands on the left of the operator and attends to the sponges, being assisted by a nurse who is stationed close behind him. The fourth assistant attends to the ether, and to nothing else whatever. A fifth man is desirable, to be ready for any work he may be called upon to do. It is a great advantage to have assistants who are trained to the particular work required of them in this operation, and to the ways of the operator; and with such assistants a smaller number will suffice. They are as regulars compared with volunteers. In any case each assistant should be instructed definitely as to what he is expected to do, and the operator should be an autocrat for the time being. No advice or opinion should be given unless asked for by any of the assistants, and silence should be preserved as far as practicable by all who may be present. At least two nurses should be in attendance—one to help with the sponges, and one to remain in close attendance on the operator.

Begin by making an incision, from a point about two inches below the umbilicus, two and a half inches long, cutting down to the muscles; arrest the bleeding, if necessary, by forceps, and leave them attached while the muscles are divided, as nearly as possible in the median line. If the abdominal walls are tense and thin, it is safer to divide the muscles and fascia on a director. A stratum of fat is usually met below the muscles, and should be cut through very carefully on the director, with scissors or knife. The peri-

tonæum will then appear, and must be divided with great care, lest the cyst be opened at the same time. The safest method is to pick up with a small tenaculum or forceps a portion of what appears to be peritonæum, and cut it with the knife or scissors held horizontally. As soon as the abdominal cavity is reached, a large male sound, dipped in a warm carbolic solution, is passed in and swept round the tumor to determine the extent of the adhesions, if any. The patient is then turned over on the side next the operator, and the exposed portion of the tumor fixed with a large tenaculum. A small trocar is then plunged into the tumor, a sponge being pressed under it to avoid contact of the fluid with any portion of the peritonæum. If the fluid flows freely, and the adhesions are not extensive, the punctured portion of the sac can be drawn outside the wound and seized with Nélaton's forceps. The trocar may then be withdrawn, and the tumor opened freely with the scissors to allow a more speedy emptying of its contents. If the tumor is a simple cyst, it may be drawn out without further manipulation, and the pedicle secured at once. While the tumor is being evacuated, and during the whole operation, the edges of the abdominal wound are to be protected by soft towels or napkins, wrung out of a hot bichloride solution, a number of which should be ready for use as called for. The abdomen also is to be kept warm by the same means. The assistant opposite is directed to maintain gentle but firm pressure on the walls, at the same time that he guards against the protrusion of the intestines. If it is a multiple cyst, the trocar may be used again more deeply, but in such cases it is a saving of time to pass the hand into the cyst and break up and evacuate the contents as rapidly as possible. If there are no adhesions, the collapsed sac is drawn out and the pedicle secured by transfixing it with a needle, which draws through the center of the pedicle a double silk ligature. The ligatures are tied separately, being first crossed so that when tied the loops interlock. This double knot, each portion of which is independent, is more secure than any device by which the two portions of the pedicle are tied at once. Additional security may be obtained by throwing another ligature round the whole pedicle. The ends of the ligatures are cut off short. A large tenaculum is passed through the pedicle just above the ligature, and the mass is then detached. The stump is held in view long enough to see that there is no oozing from it. It is well to sear it with the actual cautery before dropping it back. This is not essential, but it is a good antiseptic and hæmostatic precaution. The ovary on the opposite side is then to be carefully examined, and, if cystic or otherwise diseased, it is removed, the pedicle being treated in the same way as that of the cyst. During the manipulations above described, pressure is kept up on the abdominal walls, both to prevent the entrance of air and to assist in the expulsion of the tumor.

During the operation the abdomen and the wound are to be kept carefully guarded against cold, and therefore the use of the spray upon or over the patient is objectionable.

It has been supposed thus far that the tumor was one that could be easily evacuated and collapsed. In case it should be found to have solid or semi-solid portions, as

frequently happens, the incision must be enlarged sufficiently to allow of its extraction. It is better to do this gradually, as it is desirable to make the wound no longer than is necessary. Portions which are semi-solid can then be broken up and evacuated by the hand. The extent of the attachments may be ascertained at the same time, and may sometimes be separated in whole or in part. It is better, if possible, not to pass the same hand into the peritoneal cavity afterward; but, in case it can not be avoided, the hand is first washed in the bichloride solution, which the nurse should always have ready for the purpose. There is room for the exercise of much judgment and caution in the separation of adhesions, but there is little time for deliberation. It is very seldom necessary to use any cutting instrument for the purpose, gentle traction being generally sufficient. Particular attention must be given to any bleeding points, which ought to be secured as they appear. The greatest care must be taken to avoid injuring the intestines by the use of too much force. The omental attachments are sometimes extensive, and the injured omentum is so prone to bleed that it is well to ligate and excise any portions that may be wounded. I prefer silk to catgut for this purpose, and also for securing small bleeding points in the abdominal cavity. There is often troublesome oozing from surfaces that can not be reached or tied. This may be checked by steady pressure with a sponge squeezed nearly dry. If portions of the sac are left, and incline to bleed, the use of Paquelin's cautery, at a dull heat, will be found efficient. In other cases a curved needle may be used to include in a ligature the tissue that surrounds the bleeding point. The abdominal wound should never be closed while any considerable bleeding continues. A cylindrical speculum, of large size, is sometimes useful in searching for deep-seated hæmorrhage. Oozing surfaces will sometimes become dry if left at rest for a few minutes. Constant sponging is to be avoided, as it tends to keep the small vessels open and does no good. The sponges used in the cavity must be carefully guarded from contact with the contents of the cyst, and should be kept and washed in a vessel by themselves. In cases where portions of the cyst-wall are left attached, or where the torn surfaces are extensive, or when hæmorrhage is feared, it may be advisable to put in a glass drainage-tube and close the abdominal wound around it. This gives exit to serous or bloody fluid that might cause trouble by decomposing if confined in the cavity; but the drainage-tube is rarely necessary, and is not used nearly so often as it was before the era of antiseptics. It is, doubtless, a source of some danger, and is to be resorted to only in extreme cases. The rule is to close the abdominal cavity hermetically immediately after the operation.

There is a class of cases, not very rare, in which it is evident to the operator that the adhesions are so firm and extensive as to render the removal of the sac utterly impossible, though its contents can be thoroughly evacuated. In these cases the free portion of the sac, if any, is drawn out of the wound and excised, and the edges are so secured by wire or silk in the edges of the wound that the peritoneal cavity is perfectly closed and the cavity of the sac left open, so that it can be easily and thoroughly drained and irrigated

by means of Thomas's double drainage-tube. To one end of the horizontal part of the tube a Davidson's syringe is attached, and to the other a piece of rubber tubing for the escape. It is thus a simple matter to keep the sac washed out as often as may be necessary without disturbing the dressings or soiling them. The tubes are closed by a stop-cock, or by pinching at each side, in the intervals, so that the cavity of the sac is kept constantly full of whatever disinfectant fluid is used. The details of this procedure are so simple that they may be intrusted to any intelligent nurse. My experience in such cases has been with carbolic acid only. The cavity usually diminishes rapidly in size, and either disappears or leaves a small sinus. The large tube is removed as soon as the contraction renders it necessary. A smaller or shorter tube may be used to replace the one removed, but a double tube is not necessary, and a roll of iodoform gauze is commonly sufficient, the wound being syringed out several times daily.

Avoid all unnecessary handling and sponging of the intestines, and if they protrude keep them carefully covered with a hot towel or sponge. All bleeding having ceased, proceed at once to close the wound. The method I adopt is to pass one silver wire, or two if the wound be long, entirely through the abdominal wall, including the peritonæum, and, before tightening these, to close the edges of the peritonæum by a continuous suture of catgut. I then close the remainder of the wound by silk sutures carried carefully through the skin, muscles, and fasciæ, down to the peritonæum, but not through it. The silver sutures are then tightened, and afterward the silk. For introducing the silver wire nothing is better than a common straight sewing-needle, carrying a loop of linen thread, to which the wire is attached. I have the points of the needles ground obliquely, like those of the hypodermic-needle. The same method answers for the silk sutures, or the silk may be carried directly through by the needle. The frequency of mural abscesses after laparotomy shows that too great care can not be taken in closing the abdominal wound. If necessary, a few superficial sutures of fine silk are used to bring the edges nicely together. A narrow strip of iodoform gauze is placed directly over the wound, and the whole is covered with strips of rubber adhesive plaster, laid on transversely, each one slightly overlapping the other. Over this is laid a fold of iodoform gauze and a mass of absorbent cotton. A bandage is then applied firmly around the body and the patient transferred immediately to the bed, which has been previously warmed by hot-water bottles. If the patient is at all weak, it is better to have no pillow at first, and to raise the foot of the bed a little. The administration of ten minims of Magendie's solution immediately after the operation tends to prevent vomiting, and commonly insures three or four hours' sleep. Morphine is administered afterward as may be required to relieve pain or restlessness, and is often the best means of relieving nausea.

After-treatment.—After the operation the patient should be kept perfectly quiet. No one but the doctor or nurse should enter her room, all efforts at talking or thinking on her part should be discouraged, and the room should be darkened, to favor sleep. The patient during the first week

should be kept in a state of vegetable tranquillity. If she is doing well, no friend or relative should be allowed to see her for a week. No food whatever is to be given for the first twelve hours, nor any drink. If the mouth is dry, a very little ice may be given, but even that will sometimes provoke the nausea it is important to avoid. The first food should consist of milk and lime-water, or milk and Vichy water, in equal parts, and not more than half an ounce should be given at a time. That quantity may be given every hour if it is retained; if it is not retained, it is better to wait a few hours and to begin again with a smaller quantity. If the patient is very weak, brandy and water may be substituted for the milk, or brandy may be given with the milk. The error is often made of feeding too early and too often; and it is safer to err on the other side. If, however, the patient has been much exhausted by the operation, it is well to give an enema of beef-juice and brandy soon after she is put to bed, and to repeat it every three hours. In many cases it is well to nourish in this way after the first twelve hours; and if the patient is weak ten grains of quinine should be added to the enema twice a day. If the stomach rejects food in *any* quantity, nourishment by the rectum may be safely relied upon for several days. For this purpose I know of nothing so good as the scraped pulp of raw beef, to which one fourth part of pancreatic emulsion is added, the whole being warmed by standing in a vessel of boiling water until it assumes a homogeneous appearance like that of chocolate. With absolute rest the stomach will generally recover within twenty-four hours. The urine should be drawn with a soft-rubber catheter as often as may be necessary, and with the least possible disturbance to the patient. The temperature need not be taken for six hours after the operation, and, if at the end of twelve hours it has risen above 101° in the mouth or axilla, the dressings are to be removed down to the plaster, and the abdominal coil of rubber or lead applied. A stream of cold water passes continually through the coil, which is kept in action until the temperature falls below 100°. The coil is not then removed, but the flow of water through it is stopped by closing the end of the tube by which it escapes. The cooling process can then be resumed at a moment's notice without even waking the patient. When the coil is once in place I am accustomed to leave it there until the temperature is uniformly low. In case the temperature does not readily yield under the application of cold to the abdomen, the head-coil should be applied also. If these means do not prove sufficient, as they may not in very bad cases, the patient should be transferred to a Kibbee's cot, which allows of thorough douching of the whole trunk, and is by far the most effectual method of refrigeration at our command.

The fever-cot of Dr. Kibbee was first used in the peritonitis following ovariectomy by Dr. Thomas in the Woman's Hospital in 1876. From that time to the present, refrigeration in some form has been used in nearly all cases in that hospital where a rise of temperature occurred after operations of any kind. The results have been highly satisfactory, and many patients have undoubtedly been saved by this means.

The temperature is taken at stated intervals, and the

nurse is not allowed to take it unless directed to do so. It is a useless zeal on the part of some nurses that leads them to concentrate their energies on the temperature and pulse, so that the unfortunate patient is annoyed, every half-hour or oftener, by having the thermometer placed in the vagina or rectum, and the pulse deliberately counted and recounted by the watch; and all this when the patient is doing perfectly well.

It is desirable that the temperature be taken always in the same place for a given patient, and the mouth or the axilla is to be preferred, as causing less disturbance and giving indications sufficiently exact to serve as a warning. In exceptional cases, or when the patient is not doing well, it is advisable to take the temperature in the vagina. On no account should the temperature or pulse be mentioned or discussed within hearing of the patient. Everything that interests or disturbs her is to be studiously avoided. If she is doing well, the temperature need not be taken oftener than once in six hours. Before the bowels have been moved there is often much distress from distension of the intestines with gas. This annoying symptom occurs independently of any threatening of peritonitis. It may be greatly relieved by the introduction into the rectum of a large flexible male catheter, which may be allowed to remain there for several hours. It will frequently bring away a large quantity of wind, and thus remedy the distension of the abdomen.

On the eighth day after the operation all the sutures are removed from the abdominal wound. A few strips of plaster are applied to prevent any strain on the wound. As a rule, if the precautions recommended are carefully observed, union takes place perfectly by first intention.

The bowels should be moved gently within the first week, preferably by injections of olive-oil, followed after two or three hours by warm water. A mild cathartic may be given safely, but is not generally necessary.

During the second week the patient is to be kept as quiet as possible, but the diet is gradually increased, and small quantities of solid food may be given. Not until the end of the third week should the patient be allowed to sit up. After that time convalescence is fully established, and with ordinary care no unfavorable symptoms are to be feared.

The conduct of cases which do well from the beginning is sufficiently simple. Bad cases require so many modifications of the after-treatment, that their management, with reports of complicated operations, will be made the subject of a separate paper.

A STARCH INJECTION MASS.

By SIMON H. GAGE,

ASSISTANT PROFESSOR OF PHYSIOLOGY AND LECTURER ON MICROSCOPICAL TECHNOLOGY IN CORNELL UNIVERSITY.

A COARSE injection mass which is cold-flowing, may be forced nearly to the capillaries, rapidly hardens after injection, leaves the vessels flexible, does not dull dissecting instruments, is suitable for permanent dry or alcoholic preparations, is simple in its manipulation, cleanly and economical, seems to be fully realized in the starch mass introduced by Ad. Pansch, of Kiel, and since recommended, with various

modifications, by Wikszemski, Dalla Rosa, Meyer, and Browning.*

As starch is insoluble in alcohol and cold water, it becomes hard when injected into the blood-vessels simply by the exudation of the liquid with which it is mixed. (That the starch grains forming the mass remain entirely unchanged may be easily demonstrated by making a microscopic examination of the contents of an injected vessel.)

The mass originally recommended by Pansch consisted of wheat-flour and cold water, to which was added a sufficient quantity of the desired coloring matter. Later experiments have shown that pure starch is better than flour.

Mass for ordinary injections:

Starch ("laundry" is good), 1 volume; 2.5-per-cent. aqueous solution of chloral hydrate, 1 volume; 95-per-cent. alcohol, $\frac{1}{2}$ volume; coloring matter (see below), $\frac{1}{4}$ volume.

Since almost any animal injected may afford some organ worth preserving, it seems better to employ permanent colors for tingeing the mass. Among those which are available, probably vermilion, red lead, ultramarine, chrome orange, yellow, or green, are preferable. The color is prepared as follows: Dry color, glycerin, 95-per-cent. alcohol, equal volumes. To avoid lumps, which would clog the cannulæ, or small vessels, the color is thoroughly ground with the liquid in a mortar. It is stored in a well-stoppered bottle, and is prepared for use simply by shaking.

For the injection of brains, and, perhaps, for other rapidly perishing specimens, it seems best, as suggested by Professor Wilder, to use strong preservatives in preparing the mass: Starch (preferably in the form of flour, like the corn-starch used for food), 1 volume; 95-per-cent. alcohol, $\frac{2}{3}$ vol.; 5-per-cent. aqueous solution of chloral hydrate, $\frac{1}{2}$ vol.; coloring mixture (see above), $\frac{1}{4}$ vol.

For convenience and economy, a considerable quantity of either of the masses described above may be prepared at once, and kept in a wide-mouthed specimen or fruit jar. A smooth stick in each jar is convenient for stirring the mass, which should always be done just before using. The syringe may be filled directly from the jar, and any mass remaining in the syringe after the injection is finished may be returned to the jar.

If it is desired to have the mass enter very fine vessels, some of the stock mass, as given above, diluted with an equal volume of water or chloral solution, may be injected first, and immediately followed by the undiluted mass, or, for large animals, a mass containing twice the usual amount of starch. In whatever form the starch is used, it is necessary to work somewhat expeditiously, because the exudation of the liquid in the smaller vessels takes place so rapidly that the mass hardens very quickly in them. The larger the vessel, the more slowly, of course, do the exudation and,

* See Ad. Pansch, "Archiv für Anatomie und Entwickl.," 1877, pp. 480-482, and 1881, pp. 76-78; Wikszemski, same journal, 1880, pp. 232-234; Dalla Rosa, same, pp. 371-377; Herm. von Meyer, same, 1882, pp. 60, 61, and, 1883, pp. 265, 266; Browning, "Annals of Anatomy and Surgery," 1884, p. 24, 25.

† The chloral and alcohol prevent fermentation in the mass when it is kept in stock; the alcohol also increases the fluidity and likewise the more rapid hardening in the vessels; both, of course, act as a preservative upon the animal injected.

consequently, the hardening take place. It sometimes happens that large vessels, like the aorta, are not fully distended after the exudation of the liquid. In this case some mass containing double the ordinary amount of starch can be advantageously injected in two hours or longer after the first injection.

Finally, if vessels injected with the starch mass are dissected free, soaked a day or two in Wickersheimer's preservative, and then dried, they retain their form, and, to a great degree, their flexibility.

ITHACA, N. Y., April 25, 1884.

ABSCESSSES OF THE ABDOMINAL WALL.

By JOSEPH S. CARREAU, M.D.,

VISITING GYNÆCOLOGIST, NEW YORK DISPENSARY; ASSISTANT GYNÆCOLOGIST, NEW YORK POLYCLINIC.

ON account of the scarcity of the literature on this subject, and the rarity of such cases, I bring forward the three following cases. But, previous to doing so, I think it is well to give, in an index form, what has been written on this subject.

Ætiology.—The principal causes are injury, inflammatory diseases of the intestines, inflammation of the muscles, as in fever, decomposition of fatty secretion around the umbilicus, and sometimes they might arise from unknown causes.

Location of the Phlegmon, or Abscess.—The plastic material may be collected in the cellular tissue under the skin; between the layers of the different muscles; between the muscles and peritonæum.

Symptoms.—They are those of all phlegmonous inflammation, although the premonitory symptoms are not well marked, the pain and general disturbance coming on later in the disease, after the process of softening has taken place. Fluctuation is sometimes not easy to perceive, on account of the want of resistance of the abdominal wall. The redness of the skin is only a symptom of superficial abscess of the abdominal wall.

Termination.—It varies according to the location of the disease. If the abscess is subcutaneous it will open on the skin. If it is localized in the meshes of the muscles, it will open on the peritoneal side or on the skin. If subperitoneal, it will either open in the peritoneal cavity and be fatal, or it might produce some adherence between the abdominal wall and the bladder or intestines and open itself in one of these organs; then the prognosis is somewhat favorable.

Diagnosis.—Before the softening process has taken place, the mass is indurated, painless, circumscribed, and can be lifted up with the wall of the abdomen. After the process of softening, occurrence of rigor, with more or less pain at the spot, and sometimes well-marked fluctuation.

Treatment.—Endeavor to promote absorption of the plastic material before the process of softening has begun, but, as soon as pus has been found, it should be removed.

CASE I. *Subperitoneal Abscess.*—MRS. A., aged thirty-two. Married ten years, had four children, youngest three years old. Was well until September, 1882, when taken sick to bed with dysentery; was sent to Charity Hospital, and was discharged the

last of October, although not perfectly well, suffering yet from diarrhœa, fever, and pain in left hypogastric region. In November she came to the New York Dispensary complaining of the above-described symptoms. Then physical exploration was made, and a mass was felt in the left hypogastric region the size of a goose-egg, very tender to the touch, movable under the wall of the abdomen, and giving a sense of fluctuation. The pain was slightly increased by walking, but the mass did not hinder in any way the movements of the lower extremities. She had then a temperature of 103°; dry tongue. The patient was put to bed; an exploratory puncture was made, when half an ounce of pus came out from the mass. On account of the mobility of the mass, that it did not interfere with the movements of the lower extremities, and that nothing was felt in the lower part of the iliac fossa by conjoined manipulation, the mass being situated near the anterior-superior spinous process of the ileum, and could be lifted up with the wall of the abdomen, I concluded that it was in the wall of the abdomen, and probably between the muscles and peritonæum. The condition of the patient becoming alarming, I made an opening two inches in length, when fully half a pint of healthy pus came out. The cavity was washed out with carbolized water, filled with cotton saturated with a 20-per-cent. solution of carbolic acid, and covered with rubber cloth. The patient was doing well under this treatment, but, on account of the difficult removal and reintroduction of the cotton plug, the cavity being over two inches in depth, I had to substitute for the cotton a drainage-tube, which was changed twice a week only, but the patient washing out the cavity through the tube by means of a fountain-syringe. This was kept on, with very little variation, until January, 1883, when all discharge stopped and the opening closed.

CASE II. *Traumatic Abscess of the Abdominal Wall.*—In July, 1883, Dr. John T. Nagle referred to me a young lady, aged sixteen, in perfect health till May, when she received an accidental injury on the lower portion of the abdomen. From that time till August her general health was as good as ever, but she felt that lacing would make her feel uncomfortable, and at about the same time she noticed a scanty purulent discharge from the umbilicus, which the usual domestic remedy had not benefited. Examination showed a papillary growth of soft consistence, bleeding at the least touch, of the color and size of a small strawberry, with an expanded base protruding from the center of the navel and bathed with purulent matter. At the inner side of the papilla a small opening was found extending backward and downward through the mass, at the depth of three inches. In the wall of the abdomen an oblong mass was also felt, extending four inches below the umbilicus, two and a half inches in width, which could be lifted up and moved around with the wall of the abdomen. During all the month of August astringent lotion was injected through the opening and applied externally. Finding no decided local improvement, Dr. C. C. Lee was called in consultation, and found the condition as described (September). Discovering no vesical symptoms whatever, the case was diagnosed as being probably a traumatic abscess of the abdominal wall, with an opening at the umbilicus, and it was proposed to dilate the opening with tents, introduce a drainage-tube, and wash out the cavity twice a day. The umbilicus was dilated to No. 20 American scale, and very little pus was seen, but the patient felt very well for a few days, when inflammatory symptoms appeared, characterized by acute pain localized to the mass, high fever, ranging from 102° to 105°, and vomiting. During that time the tube had to be taken out, a poultice applied over the abdomen, and quinine and morphine given internally to subdue the pain and lower the temperature. After all inflammatory symptoms had disappeared, the drainage-tube was reintroduced; then quite a quantity of purulent matter came

out through the tube. At the time of the consultation the possible non-closure of the urachus was spoken of; but, on account of the absence of all characteristic symptoms of such a disease, it was not thought it could be it. Up to February the treatment has been kept on, and the result has been as follows: The papillary growth has disappeared, the purulent discharge has very much diminished, the mass which was felt from the outside has mostly disappeared, but the opening remains of the same depth; the general health is good, the patient being able to go out. By advice of Dr. Lee, Dr. H. B. Sands was consulted about the case, and diagnosed it as being an abscess of the abdominal wall, after having considered the possibility of a non-closed urachus and a dermoid cyst of the abdominal wall. Dr. Sands thought that the only sure curative treatment would be either a counter-puncture or the slitting off of the canal through, but was in favor of the first. On account of the marked improvement, constitutionally and locally, Dr. Lee, although in favor of the operation, advised a further trial of the treatment.

CASE III. Abscess of the Abdominal Wall following Typhoid Fever.—At the beginning of April, 1883, Mrs. C., aged thirty-seven, had typhoid fever, and was treated in rooms on the top floor of a large dry-goods house. She kept to bed during seven weeks, and was after able to attend to her family duties, but had constant pain at the umbilical region. June 15, 1883, she came to the New York Dispensary, and, on examination, a circumscribed mass, three inches wide, extending from the umbilicus to the pubis, movable with the wall of the abdomen and giving to the hand distinct fluctuation, was found. There was profuse and offensive discharge from the umbilicus, which was very patulous, allowing the introduction of a female catheter to the depth of two inches and a half. Her general condition was very bad; temperature 104° , pulse 138; dry, coated tongue. After two days, having found no improvement from the washing out of the cavity, I made a counter-opening four inches below the umbilicus, washed out the fistulous tract and passed a drainage-tube from one opening to the other, and kept up an almost constant stream of carbolized water. From the puncture one pint and a half of ichorous pus came out, of a very offensive odor. This treatment was kept on, with some slight variations unnecessary to mention here, until the last part of November, when the opening was at last found closed.

NOTES OF PRACTICE.

By C. C. P. CLARK, M.D.,

OSWEGO, N. Y.

Most of us old doctors, in some particulars of practice, follow methods which we know for certain to be sound and valuable, but which are neither generally taught, if at all, in books or schools, nor generally followed, or even known of, by the profession at large. Some of these are borrowed from the wayside, and some are the suggestions of original wit. However derived, to go to our graves without putting them on record is to leave important truths to perish with us, and thus somewhat fail in duty to the generations.

In the little examples of my own conceit in this regard which follow, I shall follow no order of specification, but shall present the several topics as they chance to occur to my mind. Two or three of them I have written about before in the pages of one medical journal or another, but none of them shall be discoursed upon here at such length as to be tiresome, I trust, even for the reader to whom they may not be new.

Treatment of Varicocele.—Books and teachers of surgery constantly or customarily warn us not to mistake a varicocele for a hernia, and aggravate it by the employment of a truss. Now, the fact is that the best of all treatment for this wearing and wearying affection is a weakish truss. It has never failed in my hands, and I have used it scores of times, not only entirely or greatly to relieve the sufferer, but, by continued application, to effect a permanent cure, save in very aggravated cases. The theory of its operation is that, pressing upon the spermatic veins, the pad takes the place of the deficient valves, supporting the superincumbent column of blood which their defection has let weigh wearily down upon the sensitive parts below. This particular of practice is the more important because the ailment is one that makes a man "feel bad all over," and argues to the mind of the patient, and not seldom of his surgeon, a variety of diseases that have no existence. When the bars of honor in our profession are still farther let down, and the "go-as-you-please" principle becomes our law, I propose to advertise a list of the cases of Bright's disease, heart disease, dyspepsia, hypochondriasis—in fact, almost everything but retroflexion of the womb and fissure of its os—that I have cured by the gentle pressure of a truss on the spermatic veins where they pass over the pubic bone. I was my own first case.

Powdered Rhubarb in Certain Ulcerations.—A good many years ago I was requested by a very capable neighboring practitioner to assist him in the ablation of a woman's big-toe nails. I found them imbedded in villainous-looking ulcerations, which had resisted long and various treatment, and, by their torments, had brought the sufferer to consent even to mutilation. I took the doctor aside and told him that rhubarb sprinkled thick in the sores twice a day would cure them in two weeks. And it did. Except when a part of a deformed nail is plunged like a horn in among the granulations and must first be cut away, this treatment of ulcers of the nails is all-sufficient. There are many other superficial ulcerations of the indolent-irritable sort, such as those of stumps, over varicose veins, and so on, in which this remedy is more effective than any other I have ever used or seen used. But it may be that iodoform deserves to supplant it. I learned it of my father, in whose mother-wit I believe it originated.

Chlorate of Potash a Specific in Tinea Tarsi and Porrigo Favosa.—I once had a bad case of tinea tarsi in a little girl in whom I was greatly interested. In spite of the treatment recommended in books in all its variety, the morbid condition of the Meibomian glands persisted in pouring out their sticky exudation, and the continued loss of the eyelashes threatened seriously to disfigure the young beauty. Considering its efficacy when internally exhibited as an alternative in certain affections of the mucous membranes, particularly of the mouth and throat, I gave the patient full doses of this medicine—about a drachm per diem. It worked like a charm. Repeatedly the disease returned, as is its wont, and was as often and as readily subdued, and now the patient's eyelashes—she is since grown to womanhood—are like the drooping and seductive sprays of the weeping willow. I have constantly used this medicine since in that

complaint, and have never been disappointed. Only in addition, the sticky oozing got rid of, red precipitate ointment may be used to be rubbed on the edges of the eyelids night and morning.

Not long after a lad was brought to me whose scalp was thickly bossed with huge stinking, porriginous scabs. Reasoning from what I saw in the last-mentioned case, I used the same remedy to stay the morbid secretion in this, and with like good effect. The crusty hummocks disappeared, as a syphilitic node sometimes will under the use of the iodide of potash, only far more rapidly. He who tries this remedy in this disease in full doses will not turn again to the scalp-shaving, poulticing, etc., which are the customary practice.

Iodine in Acute Lichen and Urticaria.—Failing by various other medicines to benefit a patient who was subject to frequent attacks of acute lichen with most intolerable itching, I gave him the compound tincture of iodine. It proved a speedy cure, as it constantly has in other cases since. The same is true with urticaria, a resembling and probably allied affection. In prurigo and the like itchments of the skin it shows no such virtue. I remember that my wandering mind took the hint of this treatment from the reputed efficacy of this medicine in snake bites, which hardly cause a more rapid serous engorgement than we sometimes see in urticaria.

The same is the best treatment I know of in acne simplex—pest of youthful comeliness—when aided by a calomel ointment. But it is not masterful.

In *Erythema Nodosum*, a rare complaint, but well worthy of consideration, on account of its extreme painfulness sometimes, I have learned to throw over "baths, mild aperients, the abstraction of a small quantity of blood" (Bulkley), and the like stereotyped treatment, having found it readily to yield to the internal administration of the muriated tincture of iron in full doses.

Opium in Bronchocele.—Noticing the great efficacy of opium as an adjuvant to iodide of potash in the treatment of bronchocele with exophthalmos, I thought to try it in the uncomplicated form of that disease, and have found it of such value that I never treat its acute progressive or formative stage without the help of that great medicine, giving perhaps one grain a day.

Liquor ferri subsulphatis in Diphtheria.—While struggling in vain, now above twenty years ago, against the great fatality of this disease, as much a stranger to our observation at that time as the plague, I accidentally learned that Dr. Medina Preston, of Sangerfield, Oneida County, N. Y., where the complaint was also then epidemic, was having very great success in treating it by the local application of Monsel's salt. This medicament was as much unknown to me by that name or for any such use as the disease itself. I procured some of it, and, instructed by Dr. Preston in the method of its use, put it on trial. Since that time I have used nothing else as a local application, and have come to consider it not only as almost sovereign, when timely and suitably applied, but as, in fact, the only thing I know of that has any certain efficacy, topical or constitutional, in the treatment of that complaint. Diluted with water to one half

strength, it is to be well painted twice a day over the diphtheritic patch and the surrounding mucous membrane with a camel's-hair brush, or fine, soft swab. You must get a full, quiet, and continued exposure of the parts, so as to do a good job; to do which the patient, if a child, must be firmly held. To daub the medicine somewhere into the back part of the mouth or down the gullet will by no means answer. This salt is in no way a caustic, nor any disinfectant, nor even, so far as I know, a poison to bacilli or any other such bugbears. But it is a mighty astringent, and seems to operate in the silly way of puckering the life out of the diphtheritic deposit and sucking or squeezing the bad juices out of the living parts adjacent. Not but that the patch or patches of false membrane are apt, notwithstanding, to reappear even again and again, and not seldom with enlarged area, but always with less density and diminished rankness of look. Unfortunately, there seems to be no safe way of effectually applying this remedy within the larynx, so that it is of no use when the disease has invaded that part. Neither dare I claim it to be a specific, but only that it is a very good thing.

Phlyctenular Corneitis has the poison of fever and ague at the bottom, the vesicles on the cornea being identical with the eczema, or "cold-sore," which we so often see on or near the lip in evident intermittents. Accordingly, as many outside of the fraternity of oculists have discovered, though seemingly few within, quinine is the grand remedy, the more effective the earlier employed. The attending photophobia is charmingly controlled by wiping the moistened outside surface of the upper eyelid with a stick of the nitrate of silver till a good smarting is produced.

Epistaxis not dependent on Organic Disease wants a dose or two of blue-pill, or other mild and moderate mercurial.

Nocturnal Spermatorrhoea and Incontinence of Urine commonly get the most help that I have been able to give from a small dose of opium at night, or the like sedative influence of a full dose of ergot.

A Fly Blister more often does good, laid in front of the duodenum, than all the other remedies that I have tried in common attacks of jaundice—I mean those that do not depend on organic disease anywhere. In these cases a tenderness will almost always be discovered over the region mentioned.

Capsicum in plentiful doses, say a drachm or so, has a wonderful control over delirium tremens, pure and simple, in the beginning. Waiting longer, we may as well wait for Nature's own restoration of the over-stimulated sensibility. But most cases of so-called delirium tremens are immediately connected with disorder or distress of some organ or function, and only mediately with strong drink, though strong drink was most likely the original promoter of the whole.

The persistent and distressing giddiness of which now and then a patient otherwise apparently well complains is successfully treated by the

Compound Tincture of Bark. I do not here mean the form of this complaint that suddenly knocks a man down and keeps him for a time disabled. I know no good prescription for this but patience, which after a while will always

justify the prescriber. The *rationale* of both of these forms of vertigo is still a mystery.

Phlegmasia Dolens, now recognized as a simple phlebitis, is effectually controlled and speedily cured by opium, conjoined with a little calomel or other mercurial, which makes superfluous the fomentations, bandaging, blisters, etc., that are commonly resorted to. It should be given to the point of making the patient quite comfortable. This was taught me by Dr. William O'Gorman, now of Newark, N. J.

When a mother's milk is to be dried up, nothing whatever is needed for her comfort or her safety but to leave Nature to herself, and this whether with the recently parturient or after prolonged lactation. This method was used by the late Dr. Hawley, of Hartford, Conn. It is also safely practiced by the lower tribes of animals, from which we may learn much, if we will.

Infants should never be fed from a bottle, but always from a spoon or cup. This is the only way to keep them from being over-fed, which, with the refusal to them of a free supply of water that idiots still practice, kills three fourths of the hand-fed children that die. Always water should be offered before milk is given, otherwise, to quench thirst and not from hunger, they will drink more of the latter than they can digest, and a bellyful of trouble will ensue.

Milk porridge, well cooked, is a better general diet for the sick than either raw milk—now so much in fashion—or any meat broths. The previous coagulation of the casein lightens the work of the stomach.

The hypodermic injection of morphine has the same control over infantile convulsions that it exercises over eclampsia. Also will it generally prevent an epileptic paroxysm, whenever the near approach of one can be discovered.

OSTEOTOMY FOR ANKYLOSIS AT THE HIP JOINT.*

BY CHARLES T. POORE, M. D.,

SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN.

DEFORMITIES of the hip joint which may be relieved by an osteotomy may be considered under four heads:

1. After hip-joint disease.
2. After rheumatism.
3. After unreduced dislocation.
4. After fracture united at an angle.

The great majority of deformities of this joint follow coxalgia. There are but few persons who have had suppurative disease of this articulation who recover with motion, and many in whom there has been no sign of abscess, yet the joint remains stiff, with an amount of flexion and adduction which interferes much with locomotion; or there may be some movement at the hip joint, yet, on account of the contraction of the psoas and iliacus and the adductors, the limb is flexed and adducted on the pelvis at an angle too great for easy locomotion. The foot can not be planted firmly on the ground, even with the greatest latitude of mo-

tion in the lumbar vertebrae, the gait being awkward and labored.

An ankylosed hip joint in which the limb is held in a straight line with the long axis of the body is a useful one for walking or standing, but it is more of a deformity in any other position of the body than one flexed at a right angle to the pelvis. In the former case the person can not sit down with any degree of comfort, or put on his shoes, whereas in the latter not only is the sitting posture comfortable, but, by the aid of proper orthopaedic apparatus, locomotion can be performed with considerable facility. It therefore becomes an important question to solve, at what angle an ankylosed hip should be placed so as to be a compromise, as it were, between these two positions, and give the patient the greatest amount of use—that is, easy walking, and comfort in the sitting posture. I think that an angle of 125° with the long axis of the body gives this. This, then, taken as a standard, we are in a position to discuss the question of correcting any marked deviation on either side of this line.

The deformity after hip-joint disease is due: 1. To contraction of the psoas and iliacus, causing flexion and rotation of the limb. 2. To the action of the adductors drawing the limb toward the median line. This adduction is accompanied by tilting of the pelvis upward upon the diseased side in walking, in order to bring the limb on a line with the long axis of the body and prevent it from crossing the sound one. It is a compensatory, not a pathological, position. In the early stage of the disease the apparent shortening is due to this tilting of the pelvis. Afterward, in those cases in which changes take place in the head and acetabulum, there is actual shortening of the limb. The difficulty in walking is not due so much to the shortening and flexion of the limb as to the adduction, whether the limb is ankylosed or not. The characteristic awkward gait of a patient who has recovered from coxalgia, with ankylosis or limited motion, is due to the hitching up of the pelvis on the diseased side at every step, in order to get the limb out of the way of the sound one; and, to accomplish this, the pelvis has to be raised so much in many cases that only the toes are able to touch the ground. Even when the real shortening is slight, as mentioned before, the muscles at fault are the psoas and iliacus and the adductors. And, even when it is attempted to correct the deformity by any operation above the insertion of the former, they will prove an obstacle, and in many cases prevent the limb from being brought into a desirable position. In those cases in which ankylosis does not take place there may be motion in the direction of further flexion, but extension beyond a certain point is impossible. And, although the thigh can be brought down so that the foot can be planted flat on the ground, it is not from any farther extension, but it is accomplished by bending forward of the lumbar portion of the spine and tilting downward of the pelvis, due to shortening of the muscles inserted into the trochanter minor. In this class of cases walking is almost as difficult as when the joint is fixed in the same position when there is much adduction.

Absorption, more or less, of the head and neck of the femur and the higher plane occupied by the trochanter, due

* Read before the New York Surgical Society, May 27, 1884.

partly to the above-mentioned changes and partly to elongation of the acetabulum in its upper and posterior portion, increases in no small degree the deformity and the actual shortening of the limb.

In ankylosis following rheumatic inflammation the condition of the parts is entirely different. The bone is not infiltrated with inflammatory products of low vitality. It may be increased in hardness, but the parts retain their normal relation; the neck is not shortened, the ankylosis is usually bony, and the psoas and iliacus are not so much of an element in causing the deformity. It is due more to position, while in hip-joint disease it is the active contraction of these muscles that causes the flexion. In this disease the limb may be fixed in a straight line with the long axis of the body—a condition seldom, if ever, met with after coxalgia.

In rheumatoid arthritis the joint may be surrounded by irregular bony growths, the head and neck being hard.

Deformities may occur after unreduced dislocation. The dislocation may be traumatic or pathological. The latter may occur during the course of hip disease, but I do not think it is so common as some writers would lead us to suppose. It may occur during the course of some debilitating disease—as typhoid, scarlet fever, or acute rheumatism.

Malposition of the femur after fracture high up has been reported.

In forming an opinion in regard to the advisability of performing an osteotomy for the relief of any deformity at the hip joint, the amount of adduction should be considered more than the flexion. I think we are apt to look more at the latter, while the former is the main hindrance to easy locomotion. I think that a moderately flexed limb with much adduction is more of a real deformity than one flexed at a much greater degree without adduction. In the former case the real shortening—I mean by that the distance that the tilting upward of the pelvis raises the foot from the ground in walking—is often more than double the real difference in length of the two limbs measured from the anterior-superior spine. The object of performing an osteotomy, then, is, first, to correct any adduction of the limb that may exist, and, secondly, to reduce the amount of flexion to an angle of about 125° .

There are three points at which section has been made for the correction of deformities at the hip joint—namely:

Through the neck.

Between the trochanters.

Below the trochanter minor.

The section through the neck, known as Adams's operation, can only be performed when the neck is present. It is, therefore, only applicable to cases of bony ankylosis following rheumatism, and it has been advocated in those cases of recovery from hip-joint disease with bony ankylosis in which there has been but slight destruction of the head. But it is a serious question whether patients with deformity after suppurative coxalgia should ever be submitted to this operation. In the vast majority of cases the section would be made through bone, infiltrated with inflammatory products of low vitality. The incision, to gain access to the

neck, would frequently have to pass through tissues which have been the seat of abscess, and even then, after section, it would be difficult to bring the limb down into a desirable position. It is not applicable to cases where the psoas and iliacus are much shortened, and this condition is found after coxalgia more frequently than after any other disease. Again, the muscles inserted into the trochanter minor, being still attached to the lower fragment, must tend to draw the limb inward.

In regard to operations between the trochanters, the section is made farther from the seat of disease in cases of deformity following suppurative coxalgia. It also permits of the removal of a wedge-shaped piece of bone, if so desired, in cases of marked adduction, yet the point of division is above the insertion of the psoas and iliacus, and the same objection holds good as to Adams's operation. If the object is to obtain motion in addition to the correction of the deformity, there is no question that the nearer the division is made to the axis of motion the better; but useful motion is seldom attained, no matter where the section is made, nor what the method of making it.

Section below the trochanter will prove, I think, the best operation in the vast majority of cases, in that it is below the insertion of the muscles attached to the trochanter minor, it is farther away from the seat of disease in deformities following coxalgia, and there is less danger of displacement inward of the lower fragment. I think that the advantage of making the section below the smaller trochanter is not clearly understood. I have lately had the opportunity to examine the parts removed in two cases following an osteotomy for deformity at the hip joint. In one case the femur was divided between the trochanters; in the other the line of section was oblique from without inward and downward, so as to pass through the middle of the trochanter minor. In the first case recovery had taken place with marked adduction. In the second there is a displacement inward of the lower fragment that may be attributed in part, I think, to the action of the psoas and iliacus, whose attachment had not been entirely freed. After section, extension was applied to the limb, by which the lower portion was brought down. The muscles inserted into the trochanter minor draw the upper portion of the lower fragment inward, and cause a projection in this location. In the first case the adduction may have been due to the same cause, although the adductors must have had considerable influence in drawing the limb toward the median line. In regard to the removal of a V-shaped piece of bone, as advocated by Volkmann, from between the trochanters when there is marked adduction, I do not think that it has any advantage over a simple linear osteotomy. It is true that, if the size of the wedge has been accurately calculated, in correcting the two sides of this V-shaped gap will come into apposition while after a linear section there will be a gap left on the inner aspect of the bone which will have to be filled up with new bone. Theoretically, a cuneiform osteotomy is more liable to be followed by suppurative, but practically, if the wound is properly cared for, this accident should not happen. There is, however, greater danger of a piece of cellular or other tissue being caught between the

fragments after a cuneiform than after a linear section, and causing suppuration, and the former takes more time to perform. I am, therefore, of the opinion that a linear section is much the better, as, the more simple an operation is, the better will be its results.

All efforts to obtain useful motion at the point of section have ultimately failed. In a few cases a movable articulation has been obtained, but in time all motion has been lost. In one case (Barton's) it lasted six years, and in another (Sands's) after two years there was limited motion. In other cases it has only lasted a few months, notwithstanding persistent efforts to prevent consolidation. It would seem that the difficulties attending the formation of a false joint are great, and, even if one is obtained, it is a question if it is of any real advantage to the patient. I think that a stiff limb in a good position will afford the patient more security and easier locomotion than the best false joint in this situation, and that a false point of motion is more of a hindrance than an aid to walking.

The method of performing an osteotomy at the upper end of the femur does not differ from sections of bone in other localities. I see no advantage in a cuneiform section over a linear osteotomy, and I think that division of the femur below the trochanter minor is a better operation, and will yield better results in the vast majority of cases than one above this point. The method I have adopted is to make an incision, about one inch long, down upon the outer aspect of the shaft of the femur, at a point just below the trochanter minor. Then, upon the knife as a guide, pass an osteotome down and divide the bone at *right angles* to its long axis. After the bone has been nearly divided, the osteotome is withdrawn and the section completed by fracturing the remaining portion. Some surgeons divide the tendons of the adductors and the long head of the biceps, and a portion of the tensor vaginæ femoris, and twist the bone in various directions in order to break down any adhesions that may exist and stretch the muscles holding the femur in an abnormal position. Unless the deformity is very marked, I do not think a tenotomy is called for, and I have abandoned all twisting and manipulation of the shaft. After placing a narrow strip of adhesive plaster over the wound, so as to bring its lips into close apposition, but leaving a space on either side of the plaster uncovered, so that any undue accumulation of blood can escape, the parts are dusted over with iodoform, and a small compress is placed over the wound, held in position by another piece of adhesive plaster. A bandage is then lightly applied, and a long splint, extending from the axilla to just above the external malleolus, no attempt being made to correct the abduction or flexion. An extension with six or eight pounds' weight is applied after the patient has been put into bed. It will generally be found that upon the third day the wound has closed. Then the extension is run up to ten or fifteen pounds, according to the age of the patient. This amount of extension will bring the limb down, and in all the cases in which I have tried it it has lowered the pelvis of that side so that the limb is slightly abducted.

After an osteotomy in this locality the patient should not be allowed to sit up in bed, but should be kept as flat

as possible on his back until firm union between the fragments has been established. A plaster-of-Paris splint is not a good dressing after these operations; it does not fix the pelvis well. It soon becomes loose, and admits of motion. It does not permit of the use of an extending apparatus, and there is no opportunity to correct any malposition.

The great leverage exerted by the limb upon the point of division and the narrow space above the point over which the bandage can be applied make it impossible to obtain fixation and control over the position of the lower fragment, so that much of the good position gained in the operating-room is lost from the ability of the patient to flex and adduct the limb to a certain extent. A plaster-of-Paris splint is a good dressing when a limb can be incased some distance above and below the point of fracture, but, when the splint only passes a short distance above this point, deformity will occur. The same holds true, but with much greater force, after an osteotomy in the upper part of the femur to correct a deformity in which there is muscular resistance continually to be overcome.

From a careful examination of the two specimens (Dr. Wharton's and Dr. Moore's) it is evident that the section has not been made at right angles to the long axis of the limb, although both operators supposed that the section was made transverse. This was due, I think, to the fact that the limbs were adducted and the bone was divided at right angles to the body rather than at right angles to the femur. I am satisfied that I have made this mistake, and I think it a point one is apt to overlook, not taking sufficient account of the amount of adduction. From the form of the femur at its upper portion, where osteotomy is usually performed, its lateral being greater than its antero-posterior diameter, there must, in all cases where there is any rotation inward of the limb, after correction be a projection inward of the inner portion of the lower fragment, because a wider portion of the femur is brought into apposition with a narrower.

The accidents following an osteotomy at the upper end of the femur are few. Out of 148 patients, 119 were cured with the limb in a good position. Seventeen died, and in 12 the operation failed, making a mortality of 11.48 per cent. In 33 cases suppuration is reported, and in only 3 is any necrosis mentioned. In 3 cases an Adams's operation did not correct, or the deformity returned, and a section below the trochanter minor was performed with success.

In one case (Post) compression of the femoral vessel, from tilting upward of the upper fragment after a section below the trochanter, occurred. In one severe hæmorrhage came on on the twentieth day after a section through the neck (Servias) from either the femoral or one of its large branches, necessitating a ligation of the femoral. The patient recovered.

Maisonneuve is reported to have divided the sciatic nerve during an operation of section between the trochanters through a large wound.

The percentage of fatal cases mentioned above gives a higher rate of mortality than belongs to the operation as now performed. Many of the operations were performed before experience had demonstrated what class of cases were

proper ones for section. In some the section was made too high, or the patients were subjected to an operation at too early a date after the disease causing the deformity had subsided. Many of the operations were performed through large wounds, and extensive dissections were made to reach the bone.

It is also found that twelve of the fatal cases occurred prior to 1877, and only five after that date, the number of cases being nearly the same in the two periods. Lately Dr. E. M. Moore, of Rochester, has published a case in which he had performed an osteotomy between the trochanters for dislocation of the head of the bone. It was at first displaced on to the dorsum of the ilium, but by manipulation had been thrown above the superior lip of the acetabulum, the trochanter being turned backward. Section was made between the trochanters, and, after bringing the foot into its normal position, an extending weight of fifteen pounds was applied. The result was that the shortening, which before the operation had been two inches and a half, was reduced to one, new bone being deposited between the fragments one inch and a half in length. In one case I have tried to obtain a lengthening, and have succeeded.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Practical Manual of Obstetrics. Dr. E. Verrier, Lecturer on Obstetrics in the Faculty of Medicine of Paris. Fourth edition, enlarged and revised, with the four "Obstetric Tables" of Professor Pajot. One hundred and five illustrations. First American edition, with revision and annotations by Edward L. Partridge, M. D., Professor of Obstetrics in the New York Post-Graduate Medical School. New York: William Wood & Co., 1884. Pp. xxi-395. [Wood's Library of Standard Medical Authors.]

Hooper's Physician's Vade Mecum: a Manual of the Principles and Practice of Physic; with an Outline of General Pathology, Therapeutics, and Hygiene. Tenth edition. Revised by William Augustus Guy, M. B. Cantab., F. L. S., etc. Vol. I. New York: William Wood & Co., 1884. Pp. xii-338. [Wood's Library of Standard Medical Authors.]

Regional Surgery, including Surgical Diagnosis. A Manual for the Use of Students. Part II, the Upper Extremity and Thorax. By F. A. Southam, M. A., M. B. Oxon., F. R. C. S. Eng., Assistant Surgeon to the Manchester Royal Infirmary, etc. London: J. & A. Churchill, 1884. Pp. xvi-223 to 582, inclusive.

The General Practitioner's Guide to Diseases and Injuries of the Eye and Eyelids. By Louis H. Tosswill, B. A., M. B. Cantab., M. R. C. S., Surgeon to the West of England Eye Infirmary, at Exeter. London: J. & A. Churchill, 1884. Pp. viii-147.

Dr. G. Beck's therapeutischer Almanach. II Jahrgang, 1884. Des Taschenbuches der neuesten Therapie III Bändchen, 2 Heft. Bern, Leipzig, und Stuttgart: J. Dalp, 1884. Pp. 88.

Transactions of the Obstetrical Society of London. Vol. XXV, for the Year 1883. With a List of Officers, Fellows, etc. London: Longmans, Green & Co., 1884. Pp. lix-315.

State Board of Health of New York. Report on the Unsanitary

Condition of the Village of Bath, and the Remedies therefor. [Extract from the Fifth Annual Report.]

The Urine in Disease. Compiled by Louis Lewis, M. D., M. R. C. S. E. [Chart.]

Twenty-third Annual Report of the Cincinnati Hospital, for the Year ending December 31, 1883.

Correspondence.

LETTER FROM WASHINGTON.

Local Items.—The Proposed Free Medical College.—The Congressional Committee on Public Health.—The National Sanitary Service.

WASHINGTON, May 26, 1884.

MEDICAL matters of local interest are very few since the adjournment of the American Medical Association. Dr. Billings, of the army, and Dr. Brown, of the navy, are to go as representatives to the International Medical Congress at Copenhagen. Professor Elliott Cones and Professor D. W. Prentiss will also make a transatlantic journey during the summer.

The Georgetown Medical College has issued its thirty-sixth annual Announcement. Lectures will begin September 22d.

In Congress, Senator Call made a voluminous speech in favor of the million-dollar-medical-college scheme, which it is proposed by him to be founded here, with various singular attachments by way of professorships. All the stray waifs of the profession are to be gathered into a single fold, with the "eclectics," the "homœopaths," and the "physio-medicalists" occupying the chief seats at the altar. The impossibility of the passage of the bill is its only redeeming feature. It has been intimated that its inspiration came all the way from Tallahassee, where there is a new-fledged medical college with somewhat similar powers.

The Committee on Public Health at their last meeting agreed upon a report adverse to the bill of the National Board of Health, which proposed the re-establishment of those of the board's powers that expired by limitation in June last. The committee say that they do not think the proposed enlargement of the powers of the board wise or expedient, and they are of opinion that the quarantine service has been satisfactorily managed by the Treasury Department, and that the control of national quarantine and epidemics should "rest where it does now." The committee consider that there is a separate field for the National Board of Health in the investigation of disease, and they accept the secretary's estimate as necessary to serve that purpose, and at the same pay the current expenses of the board, and they therefore recommend an appropriation of \$25,000. The report, however, was not presented to the House on the last committee day, and it is considered doubtful whether it will be presented in time to receive any action at this session. The committee also agreed to recommend an appropriation of \$200,000 as a contingent appropriation to be used as heretofore in case of a threatened or actual epidemic. It is from the balance of the last year's contingent appropriation that the expense of the Gulf Quarantine at Ship Island, the South Atlantic Quarantine at Sapelo Sound, and the Cape Charles Quarantine is defrayed. The friends of the board are, however, bestirring themselves with their accustomed vigor, although the season would appear a little late for violent exercise. A petition in their favor from a State Legislature was presented in the Senate on Friday last, and it is understood that similar ones will follow from other Legislatures, and from "convocations" of sanitary bodies as soon as they can be procured.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. APPLETON & Co.

Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 7, 1884.

THE PERILS OF PRESCRIPTIONS.

THE experience of almost any physician who has been engaged in practice for a number of years will doubtless bear us out in the statement that patients' lives are often jeopardized, and occasionally sacrificed, by errors connected with prescriptions, committed either by the prescriber or by the apothecary. On a recent occasion six or seven practitioners found themselves thrown together, and the conversation turned upon this subject, when almost every man in the party remembered instances that had come within either his own experience or his own observation in which great risk had been run. One of these gentlemen had nearly killed one of his own children by ordering ten grains of *pulvis ipecacuanhæ compositus* (under the *pharmacopœia* of 1870) when he meant to order *pulvis jalapæ compositus*. Another had written *hydrargyri bichloridum* by mistake for *hydrargyri chloridum* mite, and in consequence a child was given three powders each of which contained one sixth of a grain of corrosive sublimate. Still another had ordered a mixture containing tincture of aconite together with a certain amount of water, but the apothecary omitted the water, and the patient got teaspoonful doses of the tincture.

Fortunately, none of these cases proved fatal, but the hazards attending the practice of prescription-writing were forcibly impressed upon the minds of all present, and the possibilities of diminishing them were discussed. There is a general idea that, if physicians would keep a stock of drugs, and deal them out themselves, the dangers in question would be in great measure done away with. There are, however, weighty objections to the adoption of this practice as a rule, and on the occasion alluded to two instances were mentioned in which a large dose of morphine was taken by mistake for quinine without the intervention of any prescription—in one of the cases a physician took a dose of morphine from a bottle which he himself had labeled quinine; in the other case a gentleman asked an apothecary to give him a dose of quinine, and received morphine instead, which he took at once. Moreover, along with its risks, there is an element of safety in the prescription, so far as the prescriber himself is concerned, since, in cases in which no error has been committed on his part, it constitutes evidence to that effect.

It is apparent, then, that safety is not to be sought for in a discontinuance of the practice of writing prescriptions, and the question narrows itself down to the possibilities of divesting the practice of its dangers so far as may be. To some extent, errors may be guarded against by always keeping a copy of prescriptions; the mere act of making the copy serves to impress upon the prescriber's mind the need of carefulness, and

the copy itself is a precious reassurance in cases where the prescriber is troubled lest he may have made a mistake. Another precaution of great value is the determination never to write a prescription in haste, or while attending to any other matter at the same time, such as answering the questions which patients are often inconsiderate enough to ask while the prescription is being written. In the case of certain preparations, it would no doubt be of advantage to write the common name of the drug, instead of the elaborate name given in the *pharmacopœia*; and it may be questioned if it would not be better if there were less similarity in the *pharmacopœial* names of drugs of different properties. One is not very likely to write corrosive sublimate or laudanum when he intends to write calomel or paregoric, but the *pharmacopœial* names of these drugs are quite apt to be confounded.

THE PHYSICIANS' MUTUAL AID ASSOCIATION.

SEVERAL times before we have mentioned the undertaking which this association has in hand, and have always found grounds for speaking in terms of commendation, both of the plan and of the way in which the association is carrying it out. Concerning the former, we have so often set it forth that it seems sufficient now to say, in general terms, that it comprises a provision for paying a certain sum to the families of deceased members immediately on proper information having been received by the association as to the fact of death, and, in addition, the payment of allowances from the interest of a permanent fund under certain conditions.

In regard to the manner in which the association seeks to attain the object in view, the steady increase in the amount paid to the families of deceased members speaks more forcibly than anything that we could say. It is but a few years since the amount was only two hundred dollars; at present it is four hundred and seventy-five dollars. Such sums are, to be sure, not much in the way of a provision for one's family, but, as we have heretofore pointed out, a great advantage lies in the promptness with which the payment is made. *Bis dat qui cito dat*, and a little ready money at the death of the head of a family often saves the sacrifice of property interests of considerable magnitude.

Important as the association has already become, its increased usefulness is within the power of the profession to an extent that ought to give it a still more rapid growth in membership, for that is the way in which its capability for good is to be heightened, since the sum paid on a death is determined by the number of members. Men are notoriously negligent in such matters, and have to be brought by personal solicitation to look their duty and their interest in the face. This method has been pursued in a most praiseworthy and effective way by some of the older members of the association, and it is almost wholly to their efforts that the growing prosperity of the organization is due. But the burden should not rest forever on a few individuals; it seems reasonable to think that the general medical societies might properly take more interest in the matter than they have taken heretofore. One of them, indeed, has

accomplished a good deal in this way; we refer to the Medical Society of the County of Kings, which has for several years had a standing committee devoted to auxiliary work in the interest of the association. It seems to us that it would not be in any way improper for others of the larger societies to follow some equivalent course.

MINOR PARAGRAPHS.

THE HARVARD MEDICAL SCHOOL.

LAST October we gave our readers an account of the exercises held on the occasion of the one hundredth anniversary of the foundation of the school. It was a memorable celebration, and one of which the profession in Massachusetts may well feel proud. It is gratifying to find, therefore, that the proceedings have been recorded in permanent form, in a handsome brochure issued from the University Press at Cambridge. It gives the addresses delivered at the celebration, and an appendix is added, written by Dr. Oliver Wendell Holmes, which presents a succinct account of the endowment of the school. As a frontispiece, there is a well-executed woodcut of the new building, and the book is further illustrated by views of the old building in Mason Street, as it appeared in the year 1815, and of the building in North Grove Street, the latter being the structure in which most of the graduates of the college now living pursued their studies. There are few if any achievements on which the medical profession of this country may reflect with more satisfaction than the gradual growth of the Harvard Medical School, and there is abundant reason to feel confident that the career of the school in its new quarters will form the subject of like congratulation to those who may perchance celebrate its future centenaries.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 3, 1884:

DISEASES.	Week ending May 27.		Week ending June 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	1	3	0
Typhoid Fever	7	2	3	5
Scarlet Fever	76	17	57	9
Cerebro-spinal meningitis	3	3	4	4
Measles	108	21	153	28
Diphtheria	47	23	52	18

AN AMBULANCE SERVICE FOR INFECTIOUS DISEASES has been established in Paris, the use of the vehicles being free to the public.

A QUARANTINE SERVICE ON THE RED SEA is urged by the French medical journals as a precaution against the expected conveyance of cholera into Europe this summer by ships coming through to the Mediterranean by way of the Suez Canal.

THE MEDICAL DEPARTMENT OF THE CENTRAL UNIVERSITY, OF LOUISVILLE, held its annual commencement exercises on Thursday, May 29th, and the degree in medicine was conferred on a class of thirty-one.

COLUMBIA COLLEGE.—We understand that a course of lectures on hygiene and sanitary engineering will be given by Dr. John S. Billings, of the army, next year.

THE COLLEGE OF PHYSICIANS AND SURGEONS.—Dr. Robert F. Weir has been appointed clinical professor of surgery.

THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY held its fifteenth annual commencement on Thursday, May 29th, at the University Club Theatre. The degree was conferred on a class of eight ladies.

THE MEDICAL SCHOOL OF MAINE.—It is reported that Dr. Burt G. Wilder has resigned his position of professor of physiology. For the sake of the school, we trust that the report may prove to be erroneous.

THE UNIVERSITY OF PENNSYLVANIA.—It is reported that Dr. Alfred Stillé has resigned the chair of the Theory and Practice of Medicine, and that Dr. William Pepper, Provost of the University, has been elected to fill the vacancy. The chair was formerly occupied by his father, whose namesake he is.

THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY.—We understand that Dr. Robert Abbe has been appointed professor of surgery.

THE PRESBYTERIAN HOSPITAL.—Dr. Alfred C. Post has been elected President of the Medical Board.

ST. LUKE'S HOSPITAL.—Dr. Robert Abbe has been appointed one of the surgeons of the hospital, in place of Dr. William T. Bull, resigned.

PROFESSOR GROSS'S WILL is reported to provide that his medical books, diagrams, and specimens shall go to the Jefferson Medical College, the Philadelphia Academy of Surgery, or the College of Physicians of Philadelphia, as the executor may decide, and, in the event of neither of those institutions accepting the bequest, to the University of Pennsylvania or the New York Academy of Medicine, of which latter the testator was an honorary fellow.

THE CITY BOARD OF HEALTH has lately had trouble with the Fire Department, the latter having taken forcible possession of an engine-house which the board had occupied for many years with its chemical and disinfecting appliances. The board has procured an injunction restraining the Fire Department from any further interference with its occupancy of the premises.

A REWARD OF \$100,000 is provided for in a bill recently introduced into the United States Senate, to be given to any person who shall discover the true germ of yellow fever, or any certain way of preventing or materially modifying the spread of the disease.

AN HONORARY DEGREE.—We understand that the degree of LL. D. has been conferred on Dr. Morris H. Henry, of New York.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 25, 1884, to May 31, 1884:*

WRIGHT, J. P., Major and Surgeon. Directed to perform, temporarily, in addition to his other duties, those of Medical Director, Department of the Missouri. Par. 2, S. O. 107, Headquarters Department of the Missouri, May 28, 1884.

MIDDLETON, PASSMORE, Captain and Assistant Surgeon. Granted leave of absence for one month on surgeon's certificate of disability. Par. 2, S. O. 107, Headquarters Department of the Missouri, May 28, 1884.

HALL, WILLIAM R., Captain and Assistant Surgeon. Assigned to duty at Fort Stockton, Texas. Par. 1, S. O. 63, Headquarters Department of Texas, May 19, 1884.

BAILY, JOSEPH C., Major and Surgeon, now on leave of absence, is relieved from duty in Department of Texas, and ordered to report to commanding general, Department of the

East, for assignment to duty at Fort Monroe, Virginia, to relieve Lieutenant-Colonel Charles Page, Surgeon, U. S. Army, on July 1, 1884, from duty at that station.

Lieutenant-Colonel Page, on being relieved by Major Bailly, will proceed to Fort Leavenworth, Kansas, and report to commanding general, Department of the Missouri, for assignment to duty as Medical Director of that department. Par. 12, S. O. 125, A. G. O., May 29, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending May 31, 1884:*

ANDERSON, F., Passed Assistant Surgeon. Ordered to Navy Yard, New York.

BEYER, H. G., Passed Assistant Surgeon. Detached from Coast Survey steamer Blake, and ordered to Smithsonian Institution for special duty.

RUSH, W. H., Passed Assistant Surgeon. Detached from U. S. S. Despatch, and ordered to Coast Survey steamer Blake.

HENEBERGER, L. G., Passed Assistant Surgeon. Detached from Navy Yard, New York, and ordered to U. S. S. Despatch.

GREIFFITH, S. H., Passed Assistant Surgeon. Ordered to U. S. S. Lancaster, on expiration of leave of absence.

JONES, M. D., Passed Assistant Surgeon. Detached from Naval Hospital, New York, and resignation accepted June 15, 1885.

WISE, I. C., Surgeon. Detached from Naval Academy and ordered to U. S. S. Constellation.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, June 9th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-Historical Society (private).

Tuesday, June 10th: Massachusetts Medical Society (Boston—first day); New Jersey State Medical Society (Cape May—first day); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual), Chenango, Genesee (annual), Livingston (annual), Onondaga (annual), Oswego (annual), Rensselaer, St. Lawrence, Schenectady, Steuben (annual), Warren (annual), and Wyoming (annual), N. Y.; Jersey City Pathological Society; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, June 11th: Massachusetts Medical Society (second day); New Jersey State Medical Society (second day); Rhode Island Medical Society (Providence); New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Societies of the Counties of Cayuga (annual), Cortlandt (annual), Delaware (annual), Dutchess, Erie, Montgomery (annual), and Sullivan (annual), N. Y., and Middlesex, N. J. (annual).

Thursday, June 12th: Brooklyn Pathological Society; New York Laryngological Society (private); Society of Medical Jurisprudence and State Medicine; Harlem Medical Association (private).

Friday, June 13th: Medical Society of the Town of Saugerties, N. Y.

Saturday, June 14th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

DR. THOMAS C. CHALMERS died at his residence, No. 25 West Seventeenth Street, on Wednesday evening last, at the age of seventy-four. He was born in West Galway, N. Y., June 10, 1810, received his collegiate education at Union College, and was graduated from the College of Physicians and Surgeons, New York, in 1835. For many years he was connected with the New York Hospital. He was a member of the Medical Society of the County of New York, and of the Academy of

Medicine, of which he was one of the founders. As a physician he was held in high esteem for his skill and devotion to his patients; as a man he was honored for his upright character and for his kind-hearted and benevolent nature.

WILLIAM HUSTACE HUBBARD, M.D.—Dr. Hubbard, one of the internes of the medical staff of Bellevue Hospital, died at the residence of his father, in the city of New York, on Thursday afternoon, May 29, 1884, of typhoid fever. The deceased was the youngest son of Dr. Samuel T. Hubbard and Mary H. Hustace, his wife, and was born in the city of New York, March 24, 1859. His preparatory classical studies were prosecuted under the guidance of Mr. M. W. Lyon, a celebrated teacher of this city, and at seventeen years of age he entered Columbia College. In this institution he graduated in arts with distinguished honor in 1880. Showing a predilection for the medical profession, he at once commenced the study of medicine under the guidance of his distinguished and honored father and Dr. W. H. Porter, and in due time matriculated at the College of Physicians and Surgeons of New York, from which institution he graduated in 1883. During a portion of his term of medical study he was prosector to the distinguished professor of anatomy, Dr. T. T. Sabine. His medical, like his classical, pupillage was characterized by an earnest, faithful, and untiring devotion, and prosecuted with an enthusiasm which resulted in his becoming one of two successful competitors for the vacancy on the assistant medical staff of Bellevue Hospital. He entered upon the duties incident to the appointment in October, 1883. His attainments were of the highest order, and his earnest devotion to the duties incident to the new position challenged the shafts of death. He has fallen an early sacrifice upon the altar of medical science. His death is an ennobling instance of the self-sacrificing virtues of the true practitioner of our time-honored profession. The warmest sympathy of the profession will be extended to the stricken and bereaved father and his family.

P.

Letters to the Editor.

THE STATE SOCIETY'S COMMITTEE ON LEGISLATION.

NEW YORK, May 24, 1884.

To the Editor of the *New York Medical Journal*:

SIR: Permit me through your columns to correct some errors contained in the communication of Dr. Piffard, dated April 17th, a month prior to the publication of my letter.

My letter was written, not for the purpose of criticising the Committee on Legislation of the Medical Society of the State of New York, but the reported remarks made by Dr. Piffard at the adjourned meeting of the county society in April, that it was not the business of the Committee on Legislation to attend to a certain bill then pending before the Legislature. I then held, and still hold, that it is the duty of the committee to attend to such matters, and, inasmuch as it has attended to them, it would seem that Dr. Piffard has become convinced of the correctness of this view of the case. But suppose that I had criticised the non-activity of the committee, I should like to inquire upon what grounds Dr. Piffard considers himself or his acts above criticism? Is he endowed with the divinity that doth hedge a king? Until I am convinced that he is so endowed, I shall continue to criticise his public acts when, where, and how I please.

Dr. Piffard then goes on to say that the expenses of this committee so far do not exceed seventy-five dollars, while the past

committee's expenses amounted to over twelve hundred dollars. The relevancy of this statement to the question at issue is not quite apparent, but I suppose it is meant to show that the former committee's expenses were not warranted. If so, Dr. Piffard is responsible for certifying that those accounts were proper and should be paid, inasmuch as he was one of the Committee of Audit to examine into these accounts. If he does not mean that the expenses were unwarranted, then he is guilty of a piece of shabby inuendo.

While praising the action of the committee in defeating "ten injurious and objectionable medical bills," it does not seem to have occurred to the chairman of this committee that perhaps some of this praise is due other agencies. At any rate, let us hope that this cheap work may not prove as cheap as that wonderful bantling of Dr. Piffard, the law of 1880, most of the provisions of which are either useless or injurious, and which I will readily admit is cheap in quality and dear in price.

The charge of bad taste which Dr. Piffard makes sounds a little odd, and tempts me to offer, for the consideration and guidance of my esteemed colleague, the old adage that the shoemaker should not go beyond his last.

Faithfully yours,

F. R. STURGIS.

* * It was by an error that Dr. Piffard's letter was dated April 17th; it should have been dated May 17th. We think the controversy between Dr. Sturgis and Dr. Piffard has gone as far as its interest to our readers will justify, and we therefore feel compelled to say that, after allowing each of those gentlemen one more opportunity, we must decline to lend our columns to its continuance.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 5, 1884.

The President, FORDYCE BARKER, M. D., LL. D., in the chair.

ADMISSION OF NEW FELLOWS.—Twenty-four new Fellows were admitted to the Academy.

REMARKS BY THE PRESIDENT ON THE LATE DR. WILLARD PARKER AND THE LATE DR. SAMUEL D. GROSS.—After the formal admission of the new Fellows, the President said: Having welcomed each of our new Fellows individually, I assume the privilege of congratulating both them and the Academy on this accession to its numbers and its strength, with the full conviction that the benefit will be reciprocal. We count upon the new Fellows to co-operate with zeal and earnestness "in the cultivation of the science of medicine," and in every good work "for the advancement of the character and honor of the profession," and we can not doubt that every one who has now joined us will find their individual gain and personal advancement in this work. But I will not detain this meeting by repeating truths which must be obvious to all, as otherwise they would not be with us. But, in connection with the death of two of our most distinguished and eminent Fellows, I have become acquainted with certain facts in regard to the history of our Academy which seem to me curious and interesting. The Academy was founded thirty-seven years ago, and the roster published in 1880 gives the names of 118 original Fellows. One hundred of this number are now dead. I find that 7 of this number died between the ages of 80 and 90, the average of these being 83. Eighteen died between the ages of 70 and 80, the

average being 73. Forty-seven died between the ages of 55 and 70, the average being 64.5. Of the 18 still living, a large majority are in vigorous health, and still are in more or less active professional life. Eight of our ex-presidents who were original Fellows have died, the average age of this number at the time of death being 78.5. The other original Fellows who have died ex-presidents were Dr. John Watson, aged 55, and Dr. H. D. Bulkley, aged 67. Dr. James Anderson, now our senior ex-president, has already passed his eighty-sixth birthday, is still as erect as ever and mentally active, and continues his warm interest in the Academy. I am certain that I give expression to the sentiment of all in the prayer that he, with the other Founders of the Academy, may long continue with us.

There must be some explanation of the remarkable longevity of our Founders, which I leave for others to explain. Notwithstanding the hard life of medical men, their incessant toil, the frequent impossibility of regular hours for food and sleep, and their great burden of anxiety and responsibility as to the happiness and life of others, I believe it has been proved that their longevity as a class compares favorably with that of other professions. But this history of the Founders of the Academy seems to be remarkable, and I know not where its parallel can be found in any other class of one hundred and eighteen men who have been brought together without any selection as to their probabilities of long life. May we not ask whether this Academy has not been a factor in bringing about this result? The stimulus of such an association of educated men must have some influence in leading to an active, useful, regular, and honorable life, the incitement to constant mental and physical activity, the interchange of social feeling, the promotion of kindly sympathies and their influence in preventing "envy, hatred, malice, and all uncharitableness"—all those influences which repress those passions and emotions unfavorable to longevity may have really contributed more to this result than a careless superficial observation would suspect.

While all must bear those sorrows and trials which are common to humanity, I can not forbear a reference to a recent loss which has befallen one of our Founders*—who has the respect and warm esteem of all the profession, and who has ever been a zealous and most efficient friend and a most faithful office-bearer in the Academy—by the death of a most promising son, who lost his life by disease contracted in the performance of his duty in Bellevue Hospital. In such a sorrow, it may be some consolation, slight though it be, that his death was glorious, on the field of his early battle with disease, and the assurance that the afflicted parents have the sincere condolence and profound sympathy of all in this Academy.

Within a few weeks the profession of this country have lost two of its best-known and most distinguished men—and both belonged to this Academy. I shall not now repeat any of those biographical details which have been so generally published. I shall only refer to their connection with us, and their personal qualities which seem to explain their great success and eminence in the profession.

Dr. Willard Parker was elected President of this Academy in 1866. At the time of his death he was the senior ex-President, and within a few months of eighty-four years of age. For many years he was the most prominent and conspicuous medical man in this city, not only as a surgeon but as a general practitioner. With the exception of Dr. Benjamin Rush, a hundred years ago, I do not think any physician in this country ever commanded so great a professional and public influence in the community where he resided as Dr. Parker did in this city for many years. His personality, his attractive and commanding

* Dr. Samuel T. Hulbard.

presence, his genial and winning manners, his uniform cheerfulness, his ease and fluency in conversation, his uncommon practical sense—all combined to produce a magnetic influence on all brought in contact with him. The most prominent characteristics of his professional mind were quick perception, a kind of insight which gave him an intuitive power of distinguishing the radical and essential features, from what was merely incidental, coincident, or secondary. In the treatment of his cases I may say that, while I do not think that he could be ranked as a great therapist, he assuredly was exceptionally successful. I think that he always relieved and made his patients feel better. I have never known a physician who more thoroughly appreciated the influence of the *morale* or the *physique*, or more constantly utilized this knowledge in his practice. They all had the stimulating and tonic effect of confidence, cheerfulness, and hope.

Thirty-two years ago I received a note from Dr. Parker, which I still have in my possession, saying that he had a call out of town, and that, as Dr. Sabine was also away, he inclosed a list of a few whom he wished me to visit during his absence. The first was an extremely clever and accomplished lady. As I entered her room, her bed being in such a position that she could not see the door, she said:

"His very foot has music in't
As he comes up the stair."

I introduced myself, saying that the quotation was apt, but misapplied, as there was a great difference between B. and P.

I am very certain that no one ever entered or left his consulting rooms quoting from Dante's "*Inferno*,"

"Who enters here leaves hope behind."

His general and hygienic directions must have been of unusual excellence. Some years ago he gave a popular course of lectures both in this city and in Brooklyn. Although they were meagerly and imperfectly reported, I well remember that I read them carefully, and regarded them as the most useful and sensible popular lectures on health which had appeared since the famous work of Andrew Combe. Of his rank hereafter as a great surgeon I am not competent to speak. Dr. Parker's life was too incessantly occupied in active practice to permit him to contribute very largely to the literature of our profession; but many valuable papers by him were published in the medical journals. I think few can estimate the number of lives which he has been the means of saving by his paper on "*Operation for Abscess of the Appendix Vermiformis*." I speak from a sense of personal gratitude, as I think this paper saved the lives of two of my own patients.

Many notes which I have received from Dr. Parker during the past six years and his presence at every meeting of special interest, so long as his health permitted, warrant me in asserting that he kept up to the last the warmest interest in the Academy of Medicine.

Professor S. D. Gross, whose death occurred last month, in the seventy-ninth year of his age, was elected a Corresponding Fellow of this Academy in 1851, and an Honorary Fellow in 1876. No man of the present age—I assert this without qualification—has made such a reputation as a great surgical teacher and writer. No one of the profession in this country has received such honors from universities and learned societies in Europe, while the profession in this country have heaped upon him the highest honors at their disposal. In regard to him, the voice of envy is never heard, and no one, so far as I have heard, has ever whispered that these honors have not been honestly earned and are well merited. I have never heard a disparaging word as regards his personal or professional character. Underlying all this, I have observed that every one, even those who

had no personal acquaintance with him, seemed always to speak of him with an unconscious coloring of personal regard and affection. This was probably due, in a large measure, to the honesty, sincerity, and integrity of purpose which stamped his personal bearing and were transparent and conspicuous in all his writings.

His industry and ability were marvelous, and the amount of work which he accomplished was monumental. I do not believe that another instance can be found in medical history where a man seventy-eight years of age has written such a paper as that read at the last meeting of the American Medical Association on "*Laceration of the Female Sexual Organs consequent upon Parturition*." In its familiarity with all the recent literature of the subject, its breadth of treatment, and its soundness of teaching, although in some points many would hold different opinions, the most distinguished gynecologist of the present day might feel proud of having written it. Many may not know that one of his early works was a translation of Hatin's "*Manual of Obstetrics*," now rarely met with, but I have now the honor of presenting a copy to the Academy.

The last time Dr. Gross met with us was the evening when this hall was opened. Dr. Acland, Regius Professor of Medicine in Oxford University, in his speech alluded in the warmest terms to Dr. Gross, speaking of him as the senior graduate of Oxford. No one present can forget his appearance when called up by the chair. It was evident that he had not anticipated such a call, but his speech impressed me as the most touching, from its effective simplicity, of any made that evening. It came straight from the heart, dropping with it, as his speeches always did, some suggestive thoughts.

To each of the two men—Willard Parker and Samuel D. Gross—may be applied, with greater truth than it usually is, the trite quotation:

"He was a man, take him for all in all,
I shall not look upon his like again."

Their name and fame are a part of the common inheritance of our Academy. There is no greater inducement to stimulate those who are coming after than the character and success of the great ones who succeed, and therefore it is our privilege as well as our duty to sacredly cherish their memory.

(To be concluded.)

NEW YORK SURGICAL SOCIETY.

Meeting of May 27, 1884.

The President, ROBERT F. WEIR, M. D., in the chair.

OSTEOTOMY FOR ANKYLOSIS AT THE HIP JOINT.—Dr. C. T. POORE read a paper with this title. [See p. 633.]

Dr. A. C. Post said the case referred to by Dr. Poore in his paper was that of a young man upon whom he operated many years ago in the New York Hospital for ankylosis following morbus coxarius which occurred in childhood. He divided the bone and brought the limb down into a good position, and the case seemed to promise well, but within one or two days after the operation the limb became enormously swollen and discolored, and the patient died of gangrene. The operation was performed below the lesser trochanter, and at the autopsy it was found that the gangrene was caused by the hooking of the femoral vessels over the projecting part of the upper segment of bone.

THE PRESIDENT remarked that gangrene after osteotomy at the lower end of the femur had occurred in two cases within the last two years.

Dr. J. C. HUTCHINSON thought that removal of a wedge-shaped

piece of bone was unnecessary, because the osteotome itself made a wedge-shaped opening, and, when the bone was straightened, the opening was closed, and in the operations which he had performed he had found it quite sufficient. He thought that the methods adopted and advised by Dr. Poore were such as were usually approved of by surgeons of the present day. In ankylosis of rheumatic origin, the head and neck of the bone being intact, Adams's operation through the neck should be performed, because, being nearest the center of motion, the formation of a movable joint here allowed more freedom in the movements of the limb. If, however, the rheumatic arthritis was attended with large nodular deposits of new bone around the neck, this operation was inappropriate. The advantages of the operation below the trochanter (Gant's) had been well stated by Dr. Poore, and he thought that all surgeons would agree with the author of the paper that this operation was preferable in strumous cases in which there was more or less destruction of the head of the bone, and a large proportion of cases requiring operation belonged to that class.

He had divided the upper end of the femur three times. In one case both bones were divided simultaneously, and the patient was treated subsequently by simple extension with a weight and pulley. This patient was shown to the Society. In the other case the patient was kept in bed for two weeks only, and extension was made by the weight and pulley. At the end of this time, when the immediate effects of the operation had subsided, he was put upon crutches, the sound limb being elongated by a high shoe so as to suspend the diseased limb and allow it to make extension by its own weight, and also to be moved at the point of section with a view of obtaining a false joint, using the weight and pulley at night. Union, however, took place in this case. The advantages of this method were that the patient was vastly more comfortable, while the weight of the suspended limb gave all the extension necessary, and an artificial joint was most likely to be formed, if this was desirable, than if the patient were kept in bed longer. Dr. Poore was to be congratulated for being able to overcome adduction without resorting to myotomy.

Dr. POORE remarked that the only two cases in which a false joint had remained for a considerable length of time were those reported by Barton, in which motion continued for six years, and the case reported by Dr. Sands, in which motion continued for two years. Dr. Walton, of Pittsburg, in one case divided the bone, as Dr. Sayre did, between the trochanters, and the same history followed—that is, motion for a time, and then an abscess would form and the patient would be worse. After recovering from this somewhat, he would begin with passive motion, and the last record was that the bone at the point of motion was becoming ankylosed. There was no case on record, so far as he had been able to find, in which a permanent false joint had been formed. Dr. Poore thought the fatal cases as a rule followed section of the bone after ankylosis from hip-joint disease. At least this had been the fact within the last twelve years. Previous to that date the operations were done through a very large wound, and he thought that those cases should hardly enter into statistics.

CONGENITAL DEFORMITY OF THE HAND; COMBINED ECTRODACTYLISM AND SYNDACTYLISM.—Dr. Post then read a paper with this title. [It will be published in full next week.]

At the conclusion of the paper Dr. Post remarked that the one most important point in difficult cases was to operate separately upon each individual space. If all were operated upon at once, it sometimes gave rise to serious inflammation, and there was always increased difficulty in applying the dressings.

SARCOMA OF THE LOWER JAW.—Dr. Post presented a specimen, which was interesting especially on account of one point

connected with the operation. The tumor was removed from a girl twenty years of age. The existence of the tumor had been recognized eight months. He divided the jaw-bone through the middle and removed all the swollen part of the jaw, the outer incision extending to the angle, when he found marks of the disease extending farther. He then removed a second, and finally a third segment of bone. After removing the first segment of bone there was rather copious hemorrhage, which came from the inferior maxillary artery, which he plugged with wax. After making the second section of the bone the hemorrhage was profuse, and could not be controlled by means of wax, and he therefore drove a wooden plug into the bone. Afterward he cut above the entrance of the inferior maxillary artery into the bone, and no hemorrhage followed. The laceration of the artery by driving the wooden plug into it had completely arrested the hemorrhage, so that afterward, when the ramus of the bone was divided above the entrance of the artery, there was no trace of hemorrhage.

MYO-FIBROMATA OF THE UTERUS; LAPARO-MYOTOMY.—Dr. L. A. STIMSON presented a uterus, with myo-fibromata attached, which he removed, on the 24th of May, from a colored woman thirty years of age. The patient was sent to him from New Jersey, with a history of a tumor which was first noticed eighteen months ago in the lower portion of the left side of the abdomen, and which caused so much pain and distress that she was unable to earn her living. She was the mother of one child, born ten years ago. On examination, he found a firm, irregular tumor, extending a little from the right of the median line above the pubes upward to the left, and occupying the left iliac fossa to the height of the umbilicus, and it could be felt through the vagina in front of the uterus. The patient was kept under observation for a few days, when it was found that the tumor had changed its position somewhat, and, by exploration of the uterus, it was found to be independent of it, or at least movable upon it. A second tumor, thought to be the uterus, was felt behind and to the right of the main tumor. The diagnosis was that of a pedunculated fibroid of the uterus, with other fibroid growths within the uterus. An operation was undertaken for their removal by making an incision in the linea alba from the umbilicus downward under bichloride irrigation, and after the bleeding had been completely arrested, the peritoneum was divided to an extent sufficient to admit four fingers, when the diagnosis was confirmed by digital examination. The tumor was brought out through the incision, consisting of a mass somewhat heart-shaped, measuring about five inches in its greatest diameter, irregular in outline, with many nodules, and connected with the anterior surface of the uterus by a narrow pedicle. On drawing out the left ovary, it was found that the broad ligament was increased in width and length, and that the ovary was at some distance from the uterus. The ligament was transfixed below the pampiniform plexus with an ivory pin carrying a double silk ligature, and the ovary, with the plexus, was cut off with the tube. Then, bringing the right ovary into sight, it was found so closely attached to the uterus that a ligature could not be safely passed without causing an unfavorable amount of bleeding, and, as the cervix was long and narrow, he decided to remove the entire organ by amputation through the cervix. The uterus was drawn up, the cervix was transfixed with an ivory pin carrying a double silk ligature, by means of which a round rubber cord, about 3 mm. in diameter, was carried and tied upon either side, and the organ with the remaining ovary cut off above. The pedicle was so long that it could be easily brought into the abdominal wound, and was secured in the lower angle with two pins. There was no hemorrhage, except very slight bleeding from the puncture of the cervix by the ivory pin, and, when the operation had been

completed and the sponge was introduced into Douglas's cul-de-sac, it brought away only one small clot about an inch in length and of about the size of a lead-pencil. The peritonæum was united by a continuous catgut suture, as was also the aponeurotic layer. Six silver sutures were then passed about two inches from the edges of the abdominal wound and made fast with buttons. The stem of the pedicle was transfixed with two steel needles resting on the skin and the cutaneous incision closed with a continuous catgut suture. A decalcified-bone drainage-tube was inserted under the skin, from the upper angle of the wound to the pedicle, and the whole was covered with iodiform gauze.

On the next day, as there was some abdominal tenderness, with slight elevation of temperature (101° F.), the dressing was removed and there was found some bloody serum, which was dried, and the wound was dry. He covered the wound with a little gauze kept wet with the bichloride solution and applied the leaden coil, and under that treatment the pain had diminished and the temperature had sunk to 100.25° , and now, on the fourth day after the operation, the patient was apparently out of danger. She had also received a small quantity of morphine, about thirty minims of Magendie's solution in the course of twenty-four hours. [May 31st the patient was doing well.]

COMPOUND FRACTURE OF THE SKULL.—Dr. STIMSON also presented a specimen which showed much more extensive fracture of the inner than of the outer table of the skull. The patient was walking upon the street when a brick fell from a building and struck him upon the right temporal bone about one inch to the outer side of the median line, driving in a portion of the skull to the depth of nearly one inch at the deepest point. The patient remained conscious. On the 24th of May, when Dr. Stimson saw him, three hours after the receipt of the injury, he found a ragged wound of the soft parts, exposing a denuded area of bone, and from the broken edge of the bone there came out a small quantity of brain matter. Dr. Stimson removed the adjacent portion of bone with a rongeur, and was able, after enlarging the opening somewhat, to withdraw the piece of skull presented, of which the outer table was somewhat irregular and perhaps three fourths of an inch in diameter, while the inner table was one inch and a half in diameter. The patient was doing well. The escape of brain matter ceased as soon as pressure was removed.

VESICAL CALCULUS REMOVED BY LITHOLAPAXY.—Dr. STIMSON also presented a specimen of hard phosphatic stone which on the 14th of May he removed from the bladder of a man fifty years of age. The time consumed was about forty minutes. Before the operation the patient was passing water every fifteen minutes to half an hour, and there was considerable cystitis with ammoniacal urine. On the day following the operation he was able to hold his urine for five hours. The special point of interest in connection with the operation was that he used only small instruments, nothing larger than No. 28 French, although the urethra was roomy. The stone weighed three hundred grains.

THE CONNECTICUT MEDICAL SOCIETY.

Ninety-third Annual Convention, held at New Haven, May 28 and 29, 1884.

The President, Dr. E. B. NYE, of Middletown, in the chair.

[The organization of the Connecticut Medical Society is of a twofold character. It is composed of the members of the county societies, and holds an annual convention, alternately at New Haven and at Hartford. The superintendence and management of the Society are vested in a body known as "The President and Fellows of the Connecticut Medical Society," which

consists of the President, Vice-President, Treasurer, Secretary, and Committee on Matters of Professional Interest of the State Society; of thirty-eight Fellows elected by the county societies; and of the presidents of the county societies, who are *ex officio* vice-presidents of the State society. This body holds an annual meeting on the day preceding the annual convention of the society. All members of the Society have the privilege of attending the meetings of the President and Fellows, and of performing all the duties of Fellows except voting.]

First Day.—Meeting of the President and Fellows.

In accordance with this arrangement, the President and Fellows assembled in the chamber of the Common Council in the City Hall of New Haven, shortly after 3 P. M., May 28th. Among the Fellows present were Dr. E. B. Nye, of Middletown, President; Dr. S. B. St. John, of Hartford, Secretary; Dr. A. T. Douglass, of New London; Dr. J. F. Calef, of Cromwell; Dr. C. J. Fox, of Willimantic; Dr. F. E. Beckwith, of New Haven; Dr. G. C. H. Gilbert, of Westbrook; Dr. C. F. Sumner, of Bolton; Dr. M. Storrs, of Hartford; Dr. George Clary, of New Britain; Dr. H. G. Howe, of Hartford; Dr. W. W. Foster, of Putnam; Dr. R. S. Goodwin, of Thomaston; Dr. T. G. Wright, of Plainville; Dr. W. H. Mather, of Suffield; Dr. F. N. Braman, of New London; Dr. Seth Hill, of Stepany Depot; Dr. P. Cassidy, of Norwich; Dr. J. La Pierre, of Greenville; Dr. E. C. Kinney, of Norwich; Dr. W. C. Wile, of Sandy Hook; Dr. J. Olmsted, of Middletown; Dr. G. A. Shelton, of Huntington; Dr. C. A. Sears, of Portland, for Dr. D. A. Cleveland; Dr. Lewis Barnes, of Oxford; Dr. F. D. Edgerton, of Middletown; Dr. Henry Fleischner, of New Haven; Dr. C. W. Chamberlain, of Hartford; Dr. W. S. Todd, of Ridgefield; Dr. N. E. Wordin, of Bridgeport; Dr. Robert Lander, of Bridgeport; and Dr. W. S. Munger, of Watertown.

THE PRESIDENT'S ADDRESS.—While the committee appointed for the purpose, consisting of Dr. A. T. Douglass and Dr. S. B. St. John, were examining the credentials of the Fellows, the President delivered the annual address. He referred to several matters of interest which had been brought before the Society at the last meeting. One related to the legal status of the Society, and suggested the inquiry whether the charter of the Medical Society had not been annulled by a section of an act relating to the Medical Department of Yale College passed in 1879. He recommended that the Society should take such action as might be necessary to secure an act of the Legislature which should settle the question. He also approved of the proposed additions to the by-laws, which provided that all discussions should be committed to writing; that no voluntary papers should be published which had not been previously read before a county society; and that each county society should select one Fellow and an alternate to serve upon the nominating committee. He had no additional recommendations to make, but invited the attention of the Fellows to the subject of Hygiene, and spoke of the great progress which had been made in preventive medicine, and of the duty of the profession to prevent disease as well as to cure it. He urged the necessity for a code of ethics to secure that courtesy which was desirable in all human intercourse, and especially in the medical brotherhood; and favored an enlightened course in all the affairs of the Society, and a high standard of professional conduct. Both conscience and judgment caused him to indorse a code of ethics. He also mentioned the loss by death of several members of the society, among whom was a former President.

APPOINTMENT OF COMMITTEES.—The Committee on Credentials then made their report, and this was followed by the announcement of the following committees: *On Unfinished Business:* C. J. Fox, F. E. Beckwith, J. F. Calef. *On County*

Resolves: M. STORRS, L. B. ALMY, F. N. BRAMAN. *On Business:* S. B. ST. JOHN, H. G. HOWE, R. S. GOODWIN. *On Honorary Members:* W. H. MATHER, J. LA PIERRE, G. CLARY. *Auditing Committee:* W. W. FOSTER, J. OLMSTEAD. *To Nominate Essayists:* W. C. WILE, F. S. CROSSFIELD.

A CONFERENCE WITH YALE COLLEGE.—Dr. C. A. LINDSLEY announced that the Corporation of Yale College had appointed a committee to confer with a committee of the Connecticut Medical Society in regard to the Yale Medical College. A motion that a committee to represent the Society in such a conference having been passed, Dr. F. L. DICKINSON, Dr. M. C. WHITE, and Dr. O. BROWN were appointed members of the committee.

THE LEGAL STATUS OF THE SOCIETY.—Dr. W. H. CARMALT, in behalf of the committee appointed last year to take into consideration the legal status of the Society, reported that the committee had employed Mr. Chamberlain, of Hartford, to prepare a brief containing all acts of the Legislature relating to the Society, and that this had been submitted to Mr. Simeon E. Baldwin, of New Haven, for an opinion. Mr. Baldwin had stated that, in his opinion, section 6 of the act to incorporate the Medical Department of Yale College, approved March 5, 1879, did not in any way affect the corporate existence of the Connecticut Medical Society.

THE NOMINATING COMMITTEE.—At 3.45 P. M. the Society adjourned for ten minutes, to enable the Fellows from each county to select a member of the nominating committee. On coming to order again, at 4 P. M., the following-named gentlemen were announced as members of this committee: SETH HILL, C. J. FOX, W. R. BARTLETT, L. J. KETCHUM, L. B. ALMY, M. STORRS, F. D. EDGERTON, C. F. SUMNER.

AMENDMENTS TO THE BY-LAWS.—The Committee on Unfinished Business then made their report. Action upon their recommendations was taken as follows: An amendment to the by-laws was made to the effect that all remarks made in the discussion of any scientific question might be committed to writing by the person making them. The proposition that no voluntary paper should be published which had not been read before some county society, and recommended by the latter, was laid upon the table. The amendment that each county society should appoint one of the Fellows elected to serve as a member of the nominating committee, and another as his alternate, to act in his absence only, was passed. Amendments were also adopted to the effect that the Secretary should be a permanent officer; and that he should be paid fifty dollars and the Treasurer twenty-five dollars *per annum* from this year on.

THE CONFERENCE WITH YALE COLLEGE.—The committee which had been appointed to confer with the committee of the Corporation of Yale College next made their report. In behalf of the committee, Dr. M. C. White stated that on April 18, 1884, the Corporation had appointed Mr. Mason Young and Mr. F. J. Kingsbury to inquire into the condition of the Medical Department, and that on May 16, 1884, they had been instructed to endeavor to come to some agreement with the Society whereby the relations heretofore existing between the Society and the College might be dissolved. The committee therefore recommended that the following resolution be adopted:

Resolved, That the President and Fellows of the Connecticut Medical Society desire to cancel and annul the articles of agreement between them and the President and Fellows of Yale College, set forth in the act of the Legislature of the State of Connecticut, entitled 'an act in addition to and alteration of an act entitled an act to incorporate the Medical Society, passed at the October session of 1810,' and any subsequent modification thereof; and hereby authorize the President, Secretary, and Treasurer of the Connecticut Medical Society to execute all such papers as may be requisite to obtain that end, it being under-

stood that such separation shall be without prejudice to any vested interest, contract, or endowment of the College; and that any prerogative heretofore possessed by the Connecticut Medical Society shall revert to the same."

Mr. KINGSBURY, of Waterbury, a member of the Corporation, having been invited to speak upon the resolution, said that the plan of instruction at the Medical School had recently been enlarged. This had entailed additional expense, and, as the number of students had not increased in the same proportion, the deficiency had been made up from the college funds. This was found burdensome. It was possible that it might be found necessary to suspend the school. The old union between the Society and the school had ceased to be useful, and a dissolution of the relation seemed desirable. The faculty of the school believed that they were doing good work, but they had few students. He asked the gentlemen of the Society to inform themselves as to what was being done in the school, and as to whether they could not recommend the school to the young men of their acquaintance who were students of medicine. If they would do this, they would contribute much to the solution of the problem of the future of the school, and at the same time do a good thing for the profession.

The resolution offered by Dr. White was then adopted.

THE SOCIETY'S CHARTER.—A resolution that a committee of one from each county be appointed to consider the revision of the charter of the Society, and that this committee report at a special meeting of the Society to be held before the next meeting of the Legislature, was then adopted. Subsequently Dr. F. L. DICKINSON, Dr. C. W. CHAMBERLAIN, Dr. M. C. WHITE, Dr. G. L. PORTER, Dr. C. J. FOX, Dr. R. S. GOODWIN, Dr. F. N. BRAMAN, and Dr. F. D. EDGERTON, were appointed the committee.

AN ADVISORY COMMITTEE.—A resolution was next adopted that the ex-Presidents of the Society be formed into an Advisory Committee, who should be *ex-officio* Fellows of the Society, their duties to be hereafter specified.

THE FORMER SECRETARY.—Dr. WILE presented a report of the committee which was appointed last year to draft resolutions expressing the Society's appreciation of the labors of Dr. C. W. CHAMBERLAIN, for seven years Secretary of the Society. The report was accepted.

THE PLACE OF MEETING.—An amendment to the by-laws was proposed to the effect that the Society should meet in rotation at New Haven, Hartford, and Bridgeport. This proposal was rejected, as well as another, that the meetings should be held in Hartford every year.

OFFICERS FOR THE ENSUING YEAR.—The nominating committee presented the following list of officers, for whom the Secretary was instructed to cast the ballot of the Society: *President*, B. N. COMINGS, of New Britain; *Vice-President*, E. O. KINNEY, of Norwich; *Treasurer*, E. P. SWASEY, of New Britain; *Secretary*, S. B. ST. JOHN, of Hartford; *Committee on Matters of Professional Interest in the State*, N. E. WORDEN, J. H. GRANNIS, E. A. HILL; *Committee on Examination of Students*, F. D. EDGERTON, H. W. BUELL, LEWIS BARNES; *Committee to Nominate Professors in the Yale Medical School*, C. W. CHAMBERLAIN, G. L. PORTER; *Committee to Nominate a Physician to the Retreat for the Insane*, R. S. GOODWIN, L. HOLBROOK; *Committee on Publication*, I. W. LYON, with the Secretary and the Treasurer, *ex-officio*; *Committee on the Anniversary*, M. STORRS, W. M. HUDSON, J. CAMPBELL; *Dissertator*, W. H. HOLMES; *Alternate*, F. E. BECKWITH; *Delegates to the American Medical Association*, T. M. HILLS, L. S. PADDOCK, W. H. MATHER, C. A. LINDSLEY, W. H. ANDREWS, J. W. BIDWELL, R. BAKER, C. F. SUMNER, II. G. HOWE; *Delegates to the Maine Medical Association*, W. W. FOSTER, W. H. HOLMES; *Delegates to the New Hampshire Medical Society*, F. S. CROSS-

FIELD, G. CLARY; *Delegates to the Vermont Medical Society*, L. B. ALMY, A. T. DOUGLASS; *Delegates to the Massachusetts Medical Society*, C. M. CARLETON, B. W. MUNSON.

THE "PROCEEDINGS" PRIOR TO 1830.—The Society voted to print one thousand copies of the "Proceedings" from 1792 to 1830, with such papers as had been preserved, and to send one copy to each member. The estimated expense of this publication was three hundred dollars, most of which had already been secured by special subscription.

HONORARY MEMBERS.—The Committee on Honorary Members proposed the names of WILLIAM F. HUTCHINSON, of Providence, R. I., and MORRIS H. HENRY, of New York. JAMES E. REEVES, of Wheeling, W. Va., and THOMAS A. EMMET, of New York, who were proposed last year, were elected.

A COUNTY SOCIETY SUSTAINED.—The action of the New Haven County Society in expelling a member who was charged with procuring an abortion was approved.

THE VOLUME OF "TRANSACTIONS."—A vote was passed that seven hundred copies of the "Transactions" of this year be published.

THE REPORT OF THE TREASURER was read and approved by the Auditing Committee.

THE REPORTS OF THE COMMITTEES ON EXAMINATIONS AND ON APPOINTMENT OF PROFESSORS were referred to the Secretary.

The meeting of the President and Fellows adjourned at 6.25 P. M., to meet in Hartford next year.

Second Day.—Annual Convention of the Society.

The members of the Connecticut Medical Society assembled in their annual convention at 9 A. M., Wednesday, May 28th.

THE SECRETARY'S REPORT.—The Secretary, Dr. S. B. Str. JOHN, reported that during the year forty-three new members had joined the Society. Four members had died, five had removed from the State, and one had been expelled, leaving a total membership of 481, an increase of twenty-one over the number reported last year. Two distinguished honorary members had also died, Dr. J. Marion Sims and Dr. Willard Parker.

THE ANNUAL ADDRESS.—The President then delivered the annual address. His subject was "The Medical Profession and its Claims to the Respect and Gratitude of the Community." He referred to the differences between the medical and other professions. The nature of a physician's labor was depressing to body and mind. His rest was always uncertain. His studies covered a broad field, and rendered a lengthy preparation necessary. The sacrifices demanded and unhesitatingly made by the profession in epidemics were most praiseworthy. In recent years the profession had done a great work in the establishment of institutions for the training of imbeciles, and in the treatment of the insane poor more enlightened views had been brought forward. Restraint and confinement in poor-houses had been exchanged for skillful attendance and residence in elegant special institutions. The history of forensic medicine gave numerous instances where medical investigations had been of invaluable aid in detecting crime. Statistics proved that the continued observation and study of disease were leading to a diminished death rate. In comparatively recent times most striking discoveries had been made. Jenner's discovery that vaccination protected against variola; the observation that the inhalation of chloroform or sulphuric ether abolished the sensation of pain, and their use not only as palliative but also as curative agents; and the development of the antiseptic system of treating wounds—each and all of these had saved innumerable lives. The study of the germ theory also had aided in rendering life more secure. The members of our profession were always active supporters of education, they were ever ready to initiate and promote reforms, they were friendly to law and order, and were not hostile to re-

ligion. We should use every endeavor to elevate the standard of medical study. While Latin might not be necessary, it was certainly very helpful. A knowledge of chemistry was indispensable, and that of botany desirable. We were often charged with professional bigotry, but we had no reason to feel discouraged when we realized that never had the broad field of medical science been more diligently and successfully studied than now.

ESSAYISTS.—Dr. WILE, chairman of the Committee to Nominate Essayists, reported the following names: Hartford County, C. W. CHAMBERLAIN; New Haven County, F. H. WHITEMORE; Fairfield County, J. J. BERRY; New London County, A. T. DOUGLASS; Windham County, C. J. FOX; Litchfield County, O. BROWN; Middlesex County, G. W. BURKE; Tolland County, A. R. GOODRICH. The report was accepted.

THE COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST recommended, through their chairman, Dr. W. C. WILE, that the reports which had been sent to them be published in the "Transactions." Accepted.

DELEGATES FROM OTHER STATE SOCIETIES were introduced and made short addresses. They were Dr. ENGLISH, of New Jersey; Dr. BURDETTE and Dr. RICHARDSON, of Massachusetts; Dr. HUNTINGTON, of Vermont; Dr. HAMMOND, of New Hampshire; and Dr. SCHWARTZ and Dr. SMITH, of Rhode Island. Dr. Wile presented to the Society the regrets of Dr. Hutchinson, of Rhode Island, who had been present at the meeting of the day before, but had been obliged to return to Providence in the evening.

MEDICINE FIFTY YEARS AGO.—Dr. R. W. MATTHEWSON, of Durham, read a paper on this subject. He spoke of the change in the *personnel* of the profession which fifty years had made, enumerated a number of remedies and procedures which had come into general use during that time, and some which had fallen into disuse, and eulogized the famous New Haven Medical teachers, Nathan Smith, William Tully, and Benjamin Silliman.

POINTS ON STRANGULATED HERNIA was the title of a paper by Dr. G. W. HARRIS, of Old Lyme. He gave the histories of several cases in which he had operated. He emphasized the necessity for prompt action, and the impossibility of distinguishing the different layers of fascia which composed the covering. He also mentioned the facts that peritonitis might follow taxis or operation, and yet not be due to either, and that a purulent condition increased the danger from operation. He had never seen a radical cure follow an operation for the relief of strangulation. Six cases of death from strangulated hernia had occurred in his immediate neighborhood in which there had been no effort to give relief by operation.

STONE IN THE BLADDER.—Dr. W. H. CARMALT, of New Haven, reported the case of a man forty-two years old. Lithotomy was performed, the patient being under ether forty-five minutes, and ninety-seven grains of calculous material were removed. The man had no untoward symptoms of any sort after the operation, and went home in four days.

AN UNSUCCESSFUL CASE OF WIRING A SIMPLE FRACTURE OF THE PATELLA was also reported by Dr. CARMALT. A man, thirty-eight years old, had been treated a year and a half ago for a fracture of the same patella. Ligamentous union resulted, the fragments remaining an inch and a half apart. A few days before his admission to the hospital he had caught his heel in such a way as to bring all his weight upon the weak knee, and the ligament gave way. Great difficulty was found in bringing the fragments together, even after division of the tendon. The wire broke through, and a part of the patella became necrotic. Thorough antiseptics was observed, and, although there was great reaction, with much inflammation about the patella and the bursa patella, there was no supuration of the joint.

SUBTROCHANTERIO OSTEOTOMY.—Dr. CARMALT next presented a girl, about seven years old, on whom he had performed this operation. The patient had had hip-joint disease and had been cured with the thigh at a right angle with the body. Subtaneous division of the neck of the femur was first attempted, but it was found to be impossible to effect complete division, on account of the effusion around the bone. After an interval, the bone was divided with a chisel between the two trochanters and a wedge-shaped piece was removed. The leg was drawn down and the child enveloped in a plaster dressing from the axillæ to the ankles. The temperature at no time rose more than half a degree, hence the dressings were not removed for a month. At that time there was found to be an inch and a quarter of shortening, instead of the ten inches which existed before the operation.

EXTIRPATION OF THE TONGUE FOR CANCEROUS DISEASE.—Dr. CARMALT finally introduced a man, forty years old, who had been the subject of the operation. The entire fore part of the tongue had been removed, and only a linear scar remained. The operation was rendered almost entirely bloodless by ligation of the lingual arteries. The two great causes of death after operations of this character—septic and pyæmic influences—were avoided by the performance of tracheotomy, plugging of the natural air-passages with borated cotton, and frequent rinsing of the mouth with a solution of permanganate of potassium, until the surfaces granulated, when the plugs were removed. The patient could now talk as well as ever.

AN ULCERATING MUCOUS PATCH OF THE VULVA, WITH CONDYLOMATA ABOUT THE ANUS, was illustrated in a colored drawing, shown by Dr. F. E. BECKWITH, which had been made by Dr. LEIGHTON. These manifestations had disappeared in three weeks under the use of oleate of mercury by inunction, and corrosive chloride of mercury internally, in doses of one twentieth of a grain.

THE SIMS MEMORIAL FUND.—Dr. BECKWITH also read a letter from Dr. Fordyce Barker relating to the fund, and offered to receive subscriptions from the gentlemen who were present.

THE GERM THEORY OF DISEASE.—Dr. N. E. WORDIN, of Bridgeport, read an elaborate, exhaustive, and scholarly dissertation on this subject, which was listened to with unusual interest. His conclusion was that this was the most rational of all theories, and promised the best results.

THE TREATMENT OF CONJUNCTIVITIS.—Dr. F. M. WILSON, of Bridgeport, read a paper based upon ninety-six cases in his practice. He had not treated them with the idea of testing any particular plan of treatment, but had drifted into the way of treating all cases on the two great principles of cleanliness and antisepsis. He had the eye cleansed frequently—once an hour if necessary—with hot oftener than with cold water; and then, which he considered of secondary importance, applied a solution of boric acid.

THE EARLY DIAGNOSIS AND TREATMENT OF POTTS'S DISEASE.—Dr. GEORGE B. PACKARD, of Hartford, read a paper with this title. An early diagnosis seemed to be rare, if one could base an opinion upon the fact that most patients who applied at orthopædic hospitals suffering from this disease were already the subjects of angular curvature; and yet the diagnosis was not difficult if care was taken in the examination. The treatment included tonics and fixation of the spine so as to allow of rest in the open air. Fixation might be secured by plaster of Paris or a steel support. The former was preferable if the disease affected the lower dorsal or the lumbar region of the spine; the latter if it involved the middle or upper dorsal or the cervical region.

MALARIAL DISEASES CURED WITHOUT QUININE.—Dr. AMBROSE BEARDSLEY, of Birmingham, read a paper in which he

expressed no sympathy with the present fashion of loading all malarial patients with quinine. He used instead small doses of aloes, calomel, gelsemium, arsenious acid, gentian, serpentaria, anise, caraway, fennel, salicin, and rhubarb. With these simple remedies he cured the most dangerous and obstinate cases, even where quinine in large doses had failed to affect the symptoms.

Other papers were read by title and referred to the Committee on Publication.

The Society adjourned at 12.50 p. m.

THE ANNUAL DINNER was served at the Athenæum. Dr. J. P. C. FOSTER, chairman of the Anniversary Committee, presided, assisted by Dr. S. H. CHAPMAN and Dr. C. P. LINDSLEY. About seventy physicians were present. Speeches were made by Mayor LEWIS, President PORTER, Mr. CLARENCE DEMING, of the "Morning News," Professor BREWER, Mr. GEORGE A. BUTLER, Dr. ENGLISH, of New Jersey, and Dr. D. BRYSON DELAVAN, of New York.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of May 26, 1884.

The Vice-President, Dr. ANDREW H. SMITH, in the chair.

THE TREATMENT OF ANKLE-JOINT DISEASE, AND THE MECHANISM OF ITS CURE.—Dr. MILTON JOSIAH ROBERTS read a paper on this subject.

It was not his intention to touch upon the pathology, symptomatology, or diagnosis, but to direct attention to the therapeutic utilization of the vital forces in the treatment. He briefly pointed out the conditions upon which the health of the joint depended, and more particularly the active agencies in producing disease. Coming to the consideration of the principles involved in the treatment, the object was, so far as possible, to imitate the natural conditions by artificial means. There should be limited movement under the restrictions of elastic support. Absolute rigidity should never be sought. The apparatus which he employed was presented. By it the weight was taken off of the affected joint to the extent desired, motion was allowed, the patient was able at once to go about, and the apparatus could be applied and removed in a few minutes. A patient was presented who had suffered from a severe form of synovitis and caries of the ankle joint, not having been able to stand and walk for two or three months. Several spicules of dead bone had been discharged through fistulæ leading down to the joint. An apparatus was applied which enabled the patient to walk the same day. An elastic cap aided in getting rid of the discharges. The patient was cured, having a perfect joint, within eight months. The author referred to his paper read at the last meeting of the Medical Society of the State of New York for a fuller explanation of the principles involved in the treatment.

Dr. F. LANGE believed that some cases would be found in which the treatment advocated by Dr. Roberts would not be applicable, and we should find it necessary to resort to the operation of excision. It was important to know exactly what structures had been involved in cases in which a cure resulted with motion. He would not be understood as saying that he would perform excision in every case of ankle-joint disease.

Dr. J. L. CORNING could testify to the extent to which the diseased process had gone in the case reported by Dr. Roberts, and said the results of treatment and the rapidity with which they took place were marvellous.

Dr. J. F. RIDLON described the apparatus used in the Orthopædic Dispensary, and, referring to that presented by Dr. Roberts, said he thought the impression should not be allowed to go forth that it was adapted to all cases. Some patients even recovered without any apparatus.

Dr. G. R. ELLIOTT spoke of the duration of the treatment

under the method brought forward by Dr. Roberts as being much shorter than with methods intended to produce ankylosis.

Dr. H. LEVY thought the rule that rest should be observed in the treatment of diseased structures was not as strictly observed by Dr. Roberts as it should be.

Dr. ROBERTS, in closing the discussion, said he did not wish it understood that he professed to have a cure-all for every case of ankle-joint disease. Regarding Dr. Kidlon's criticism on the strength and effectiveness of the apparatus, it was not necessary to have a support of such strength as was required when the rigid apparatus was worn.

Dr. W. M. CARPENTER moved that when the society adjourn it adjourn to meet on the fourth Monday in September. Carried unanimously.

OVERCROWDING IN SCHOOLS.—On motion, the report of the Committee on Hygiene on the overcrowding of the public schools was not read, but ordered to be printed in the minutes.

PASSENGER SHIP MEDICAL SERVICE.—Dr. J. A. IRWIN offered resolutions urging Congress to take action regarding the sanitary conditions of ocean steamships. Seconded by Dr. C. C. Lee, and carried unanimously.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of April 9, 1884.

MALIGNANT PUSTULE.—Dr. W. S. JANNEY read a paper founded on four cases that had come under his observation in the course of thirty years' practice.

The synonyms of malignant pustule, as given by various authors, were: Contagious carbuncle, malignant carbuncle, anthrax, and charbon, other names being used to designate the more diffused and general forms of the disease. It was defined to be a specific contagious disease, communicated to man from disease of horned cattle, horses, sheep, and other herbivora, known as splenic fever, and due to the presence in the system of the *Bacillus anthracis* of Cohn, or bacteridium of Davaine. The local or external form of the affection, malignant pustule proper, was a carbunculous swelling having specific characters, attended with more or less intense surrounding inflammatory edema; constitutional symptoms might be slight or severe, and the disease was often fatal. The symptoms and course of malignant pustule varied greatly with the form of the disease. Authors described at least three distinct forms: 1. Malignant pustule or carbuncle proper, the form from which the names of charbon and anthrax were derived; usually it occurred as a primary lesion due to direct inoculation; the seat was either on the face, neck, hands, or arms, those parts most exposed to inoculation. 2. Malignant anthrax edema, without definite pustule, corresponded in the main with malignant pustule proper. The eyelids were the parts most frequently affected, but it might occur elsewhere. 3. Internal anthrax: this differed greatly from the external, and might be general, having no special lesion or accompanied by local affection, usually pulmonary or gastro-intestinal.

[Dr. Janney then read the histories of four cases of malignant pustule proper.]

From the observation of these cases it appeared that the disease might be divided into four periods or stages—first, the period of incubation, which might be from a few hours to fourteen days, with no prodromes; second period, the formation of pimple, papule, and pustule, lasting from twelve to twenty-four hours; third stage, the extension of the edema and inflammation, occurring twelve hours after the formation of the pustule; fourth, the stage of gangrene, occurring from twelve to twenty-four hours later, the disease extended by the poison being

carried by the superficial lymphatics only. He was led to this conclusion from the fact that in three of the cases the disease extended from the right side of the pustule, curving upward over the face; and not until the lines of inflammation or edema had reached above the line of Wharton's duct did the lips show evidence of disease. Again, the disease in all the cases was confined to one side of the face, head, neck, and scalp, and did not pass over the median line of the face or the median line of the neck posteriorly.

The immediate cause of death in three of the cases was, he believed, thrombus of the cerebral veins or sinuses. The patients rapidly became comatose, and had stertorous breathing and complete paralysis before death, all symptoms of compression of the brain. Billroth had reported a case of death from malignant pustule in which the post-mortem examination showed thrombus of the temporal veins that was traced to the ophthalmic, and through the ophthalmic to the brain. Bartholow gave as the most frequent cause of sudden death in erysipelas of the face and head, thrombus of either the longitudinal, the cavernous, or the lateral sinus.

The *Bacillus anthracis* was a bacterium, first discovered by Pollender in 1849. All parts of the bodies of animals dead of the disease were actively poisonous, and might convey it by direct or mediate contagion; it might arise from eating the flesh, though the poison was said to be destroyed by cooking; contagion might also be conveyed by butter or milk. The bites of flies might also convey the poison. Contagion occurred in those who had to deal with the wool or hair of animals which had died of the disease, such as wool packers and sorters, horse-hair cleaners, furriers, and tanners. The poison might enter the system either by local inoculation or by inhalation of the dust containing it. The diffusion of the poison by water, and its distribution by means of wool-waste and bone-dust, used as manure, especially deserved notice as capable of spreading the contagion.

Dr. TYSON regretted that he could add nothing from personal experience in this interesting disease. It was to be regretted that there was no microscopic study of the blood, with a view to determining the presence of the *Bacillus anthracis*, for, although there appeared to be less doubt as to the causative relation of the bacillus of this disease than of any other, it was still important that observations should be multiplied in this country, most of the investigations having been made abroad—in France and Germany.

Dr. SHAKESPEARE thought it would have been very interesting to note the microscopical appearance in these cases, and to have proved the diagnosis by inoculation. The author of the paper admitted the *Bacillus anthracis* as a cause, or at least as a concomitant of the disease. He could not agree with him as to the inference from failure to inoculate the lower animals. It was known that these might resist infection, either from protection by previous attacks or from special idiosyncrasies. But such protection could scarcely be said to exist when the disease did not exist, and anthracosis was extremely rare among the cattle of this country. By inoculation in some animals, such as the house-mouse, we could nearly always make a diagnosis in the earlier stages, and, if resort were had to the microscope, the diagnosis was nearly certain. He had paid considerable attention to the subject of anthrax in the lower animals during a recent visit to Koch's laboratory. It was worthy of remark that the field-mouse, although much like the house-mouse, and some species of sheep, seemed to resist the infection. We were principally indebted to French observers for our knowledge on this matter. He had had no difficulty in isolating, cultivating, and inoculating the anthrax bacillus. The animals died promptly, and their blood-vessels were found ob-

structed, and in the lungs absolutely plugged by the typical bacilli, arranged in twisted filaments. The cases in the human subject were rare in this country, and it was remarkable that four should have occurred in the practice of one surgeon in so short a time. The occurrence of this and other disease in man, as an infection from animals, showed the great importance of scientific study of the diseases of these animals, a matter which in this country had not yet received adequate consideration.

Dr. W. H. PANCOAST said that he had been present some years ago at a meeting of the Academy of Medicine in Paris during a heated discussion of this subject. Pasteur, he believed, was present, and took part in the debate. It was in print that Pasteur stated that the bacillus might be developed in the earth surrounding buried carcasses, and be thus disseminated—that the worms in the earth might work to the surface and distribute the bacillus to the adjacent vegetation. If this was a fact, it might explain the origin of the cases described by Dr. Janney occurring among farmers. He had never seen a case of malignant pustule in his own practice; but several years ago he saw one in the service of his father, in the Pennsylvania Hospital. The patient was a knacker from "the neck," and had acquired the contagion in skinning some dead cattle. The pustule was upon the right arm, if he recollected correctly. In spite of every effort, the patient died from the poison. He was impressed with the value of the hot iron in such cases—making free incisions, and pushing the iron at a white heat into them and into the wound, so as to destroy the bacillus. The hot iron not only destroyed the part it touched, but the heat radiated beyond and effected molecular change in the deeper parts. Carbolic acid did not penetrate so deeply. He thought it important to open the pustule freely, and to tap with a fine-bladed knife the surrounding swollen and inflamed tissue; to use what he called the antiphlogistic touch of the knife—not simple or multiple incisions, but numerous punctures, as many as were required to relieve the inflammation or let out the stagnant blood. He found this method very useful in many chronic and acute inflammatory congestions. In opening an ordinary carbuncle, one that was non-malignant, he also thinks it important to incise freely. In an ordinary boil there were only a few masses of cellular tissue inflamed, and a simple straight incision from without inward, and out again, would free them all; but in a carbuncle there were so many packets of inflamed cellular tissue that a simple linear incision and even a crucial one would not answer. He therefore made one free incision through the inflamed mass, and then, with the same curved bistoury, incised freely, and in every direction subcutaneously, the sides of the inflamed mass on each side of the straight incision. By this method, with only one incision, he opened freely and reached all the inflamed tissues, making the greatest antiphlogistic impression, and yet leaving only one straight scar.

Dr. S. ASHURST recalled the case referred to by Dr. Pancoast as occurring in the practice of his father, Dr. Joseph Pancoast. He used, however, a more energetic means than the hot iron, viz., a strong solution of zinc chloride. For his part, he did not like the hot iron.

Dr. PANCOAST asked if inoculation of the lower animals would show results sufficiently early to be of use in diagnosis.

Dr. SHAKESPEARE replied that small animals—such as mice—died in twenty-four hours after inoculation.

Dr. TYSON asked if the appearance of the pustule was an evidence of the general involvement of the system, and, if so, what advantage was to be gained by treatment of the local manifestation by cauterization or excision.

Dr. SHAKESPEARE said it was true that, after the disease had reached the general system, cauterization of the local manifestation, except in so far as the latter constituted a depot for the

continued production of the disease germs which might still be added to those already in the system at large, was useless.

Dr. JANNEY thought that many cases of malignant pustule occurred in this city, and were not reported. He could not be absolutely positive that his cases were malignant pustule, because no microscopic examination was made. He judged from the character and the clinical history. In three of the cases no cause could be traced; in the fourth there was only the supposition of cause, since the patient had been among conditions that might be a source of infection. Dr. Welsh saw one of the cases, and thought it was malignant pustule; Dr. D. Hayes Agnew saw the fourth, and pronounced it that disease. As regarded treatment, in one of the cases it was evident that no local treatment would avail. He had a theory that in the favorable case the early incision and the injection of carbolic acid into the lips destroyed the bacillus germs, which had as yet not extended to the cheek. The remedy that seemed of greatest value in this disease, as indeed in other forms of blood-poisoning, was chlorine-water.

Dr. PANCOAST stated that he liked chloride of zinc as an alterative application, having learned its value from his father's practice; that he used it on chancres, cutting them out when possible, and applying it on the raw surface, and also upon morbid growths. But in the bites of dogs he also used the hot iron for its radiating effect; and, while he might use it as an application to malignant pustule, yet he would also use the hot iron, pushing it into the incision.

Dr. SHAKESPEARE regarded the affection more commonly called anthrax as a very different thing from malignant pustule. It was the latter which had the same cause as anthrax in the lower animals. The remarks of Dr. Pancoast concerning carbuncle recalled his intention to say that the incandescent iron was a more proper remedy for malignant pustule. It was our most effective bactericide. Carbolic acid might not penetrate nor destroy even when we used the concentrated solution, for this became diluted by contact with the tissues. The bacillus of anthrax often contained spores; these would be propagated from pus and could not be killed by dilute carbolic acid. It appeared that the most efficient chemical agent for the purpose was a strong solution (1 to 400) of corrosive sublimate. But, since it was a question of life or death of the patient, with the probabilities against him, he thought the surgeon should not be influenced by cosmetic considerations, but should promptly and with a free hand apply the most certain means of killing the bacillus while it was brooding, and before it had spread beyond the pustule.

HENRY LEFFMANN, M. D., *Reporting Secretary.*

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of May 33, 1884.

The President, Dr. TYSON, in the chair.

PAGET'S DISEASE OF THE NIPPLE.—Dr. W. G. MACCONNELL, in behalf of Dr. JOSEPH HEARN, presented a case that had been removed by Dr. Hearn at the clinic of the Jefferson Medical College on the preceding Saturday. The patient, who was thirty-nine years old, had been married nineteen years, and had four children and one miscarriage. No other member of her family had been the subject of a tumor. Four years ago, following a pustular eruption on the abdomen, a lump was noticed in the left breast, which was the seat of lancinating pain of an intermittent character. Previous to the discovery of the lump, an eruption of an eczematous nature was noticed for seven or eight months. At the time of the operation the right nipple was thoroughly retracted; indeed, it had entirely melted away. There was no axillary involvement, although a gland

was noticed at the upper and inner quadrant of the breast. On section of the tumor, after its removal, several small nodules of a hard, fibrous consistence were encountered, which, on microscopical examination, were found to be the seat of carcinoma of a scirrhous nature. The gland revealed a similar condition.

COLLOID CARCINOMA OF THE BREAST.—This specimen also had been removed by Dr. HEARN at the Jefferson Medical College clinic. The patient, an unmarried woman, sixty-seven years old, was in good general health, although of a phthisical family. No other member of her family had had any tumor. About three years ago she felt a lancinating pain in the right breast, and, on examining the breast, she found a lump, which was hard, roundish, and about as large as an English walnut. It increased in size continuously, and at the end of a year and a half it had attained the size of an egg. Two months before her admission to the hospital she resorted to a quack, who applied a salve, which, she says, caused some bleeding. She states that the breast began to "gather," and, one week previous to the operation, it broke and a dark-greenish fluid escaped, followed by the extrusion of a mass of greenish-colored slough. The growth was attached to the overlying skin, but not to the pectoral tissues beneath; the subcutaneous veins were enlarged and prominent; there was no glandular involvement. On section, the tumor was found to be densely hard and the seat of small cavities filled with a glairy, gelatinous, semi-solid fluid. Microscopic examination showed alveoli filled with epithelia that had undergone fatty degeneration, not a few of them showing the peculiar laminated appearance of colloid. The connective tissue of the stroma was in a state of active proliferation, due probably to the inflammation resulting from the cystic change already mentioned.

SARCOMA OF THE TESTICLE.—Dr. G. DE SCHWEINITZ showed a specimen that had been removed from a man, thirty-seven years old, a patient of Dr. John Ashhurst's, in the University Hospital. The patient's father and mother were living and in good health; his grandparents had died at an advanced age, having been healthy through their lives. Of two brothers and two sisters, all were living, and three of them had been thus far in good physical condition. One sister had had a growth removed from the orbit, probably a sarcoma, which was now beginning to recur. His own health had been good, and he denied having had any venereal disease. Two years and a half ago he first noticed a globular swelling at the bottom of the left testicle, which gradually increased in size until eight months ago, since which time its growth had been so rapid that at the time of the operation the circumference of the testicle was fourteen inches and a half. The pain had been insignificant until last April, but since then there had been severe dragging pains. The inguinal glands on either side were slightly enlarged. The growth occupied the body of the testis, being surrounded by the tunica albuginea and the tunica vaginalis, which were intact. The specimen was somewhat irregular, moderately soft, blood-stained mass, with an area of cystic degeneration at one end. Microscopic examination showed it to be a sarcoma of the round-cell variety, the cells being moderately large, containing oval nuclei and, some of them, nucleoli. In places a faint reticulation was demonstrable, producing a picture similar to the "lymph-gland-like" round-cell sarcoma.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held January 15, 1884, W. M. POLK, M. D., President, in the chair.

DERMOID CYST IN THE PELVIC CELLULAR TISSUE.—Dr. T. A. EMMET presented a specimen of dermoid cyst which had been

removed ten days before from a woman about twenty-two years old, who had been in good health until puberty, but since that time had suffered from very severe dysmenorrhœa, which had gradually reduced the general health until she had become a confirmed invalid. There had been repeated attacks of pelvic inflammation. She entered the hospital in the autumn of the past year, and every means were resorted to to relieve her sufferings and restore the health, but without success. All of his colleagues at the Woman's Hospital saw the patient, but were unable to make a diagnosis beyond that of pelvic inflammation. On passing the finger into the posterior vaginal *cul-de-sac*, the impression was received as of a tumor growing from nearly the entire length of the posterior wall of the uterus—possibly a fibro-cyst or a fibroid tumor. The patient had suffered so much, and her mental powers were becoming so greatly affected, that an exploratory abdominal incision was decided upon, with the hope of finding and removing the cause. At the operation Dr. Emmet was surprised, on cutting through the peritoneum, to come upon a dermoid cyst in Douglas's *cul-de-sac*, below and entirely outside of the peritoneum, and without any connection with the ovary or any other organ. He then read the pathologist's report.

Dr. Emmet further remarked that it was impossible to find either ovary, so extensive had been the adhesions excited by repeated attacks of cellulitis. The left Fallopian tube, which seemed to be somewhat enlarged, was removed. He inquired whether the occurrence of a dermoid cyst in the pelvic cellular tissue, outside of the peritoneum, and having no connection whatever with the ovaries, was not unusual. This was the only case of the kind which he was able to recall. The case also illustrated the advantage often of opening the abdomen for diagnostic purposes.

Dr. H. J. GARRIGUES said that without doubt the case was a rare one, but he would call attention to the fact that dermoid cysts were not always developed in connection with the ovaries, but often under the skin, and sometimes even in the internal organs. He was therefore not surprised that one should have been developed in the locality referred to. For the explanation we should probably have to go back to the beginning of fetal life, at which time the foundation of the condition was probably laid. We could easily imagine that at this time some small portion of the epiblast became included in the mesoblast, and, in the course of time, becoming separated from the epiblast, might develop into the form of a dermoid cyst in any portion of the interior of the body.

Dr. W. M. CHAMBERLAIN thought that the late Dr. Peaslee some seven or eight years ago presented a specimen of dermoid cyst, of about the size of that presented by Dr. Emmet, which had developed anteriorly and beneath the peritoneum in the iliac fossa.

UTERINE CASTS.—Dr. GARRIGUES presented a specimen with the following remarks: When fresh it was 6 cm. long, 2½ cm. wide, 1½ cm. thick, and of a pyriform shape. The outer surface was grayish; the cut surface was of a dark-red color; it was soft and stringy, and appeared very much like a fibrinous clot. The odor was offensive. The physician who brought the specimen to him said it was one out of a hundred, meaning by that that many similar ones had been passed. The patient said there came one after each menstruation, but added that it came only in case there had been coition. If, during the whole period between two menstruations, no connection took place, none would come. Menstruation was always somewhat protracted. The present body had come seventeen days after the beginning of a menstrual flow. Dr. Garrigues had examined part of the specimen, and had found that the sections, by removal from one saucer to another, would constantly break. The microscopical

examination showed it to be rather peculiar. It consisted of a net of fibrin filled with small round cells. Consequently it was not a blood-clot. The blood was gone, so to speak; the fibrin had been left, and was full of cells. The question arose, where did the small cells come from? So far as he knew, red-blood corpuscles were never changed into such cells. Might they not have been due to wandering blood corpuscles from the walls of the uterus, or to proliferation of the colorless blood corpuscles originally contained in the clot? It resembled connective-tissue stroma, but the network was composed of fibrin and not of connective tissue. Compared with other specimens which had been presented to the society, it showed the importance of a microscopical examination of bodies passed from the uterus. About three years ago Dr. Skene presented a so-called clot, which, upon microscopical examination, Dr. Garrigues found to be composed of placental tissue. Subsequently he had reported on another body passed from the womb, which proved to be uterine tissue, illustrating dissecting metritis, eight examples of which he had now seen. The specimen now presented might easily be mistaken for the product of conception, on account of the patient's assertion that such bodies were expelled only after coition.

Dr. CLEMENT CLEVELAND had to-day received a specimen, the gross appearance of which resembled very much the one presented by Dr. Garrigues; it looked like uterine tissue. The patient was twenty-seven years of age, and had suffered regularly from intense dysmenorrhœa for years, the pain coming on before the onset of the flow. The clot was passed every month. There was anteversion.

Dr. GARRIGUES thought it probable that the specimen consisted of the membrane thrown off in membranous dysmenorrhœa. There was another form of body cast off from the uterus, known to be due to exfoliative endometritis, three cases of which had been described by Kubasson ("Ztschr. f. Geburtsh. u. Gynäk.," ix, 1883, p. 310). The whole mucous membrane lining the uterus was expelled in the form of a sac. The cast was so complete as even to have taken with it a thin layer of muscular tissue beneath the mucous membrane. It had nothing to do with menstruation.

Dr. CLEVELAND remarked that the specimen to which he referred bore no resemblance to the membrane sometimes discharged by those suffering from dysmenorrhœa.

Dr. A. S. CLARKE was reminded of a case, recently observed, of which he had not seen an example before. The patient, a young woman, married, had had one miscarriage, and complained of very great pelvic and uterine uneasiness. Sharp antelexion was found similar to congenital antelexion. He attempted to effect dilatation by means of a laminaria tent, preparatory to the use of a stem pessary, but the canal was so tightly closed that he was unable to introduce the tent up to the fundus. During the night it was pressed out, and was not replaced. The evening of the next day he was sent for, and, on his arrival, was shown a mass, similar in size and appearance to that presented by Dr. Garrigues, having a very offensive odor. It had been passed from the womb. The central portion was perforated by a canal corresponding to the uterine canal. Dr. Clarke was of the impression at the time that it was composed of inspissated mucus, which the uterus had been excited to discharge by the presence of the tent. The patient was afterward much relieved.

A NEEDLE FORCEPS.—Dr. CLEVELAND presented a forceps with grooves for holding the needle firmly in one of six positions, preventing the possibility of its slipping. In the forceps used at the Woman's Hospital the needle was grasped by a copper surface, and as this became worn the needle was apt to slip.

Dr. T. A. EMMET remarked that Dr. Sims had made use of a forceps similar to the one presented. The objection to its use was that the hard metal broke the needle; hence the substitution of copper. The best needle-holder which he had seen had been invented many years ago by a Dr. Cutter, of Newark, in which the principle of action was like that of a nut-cracker.

Dr. B. F. DAWSON thought the quality of the needles for sale in the American market was more at fault than the needle-holder; they were not properly tempered, and broke or bent easily if firmly grasped. Hence he had been in the habit of obtaining his needles from England, or tempering them himself.

Dr. EMMET said that, in re-tempering a needle, he let it cool in hot oil.

Dr. CHAMBERLAIN believed the needle was less liable to be broken if the handle of the forceps contained a spring, conveying to the hand a sense of the degree of pressure with which the needle was being grasped.

RUPTURE OF AN OVARIAN CYST, THE CONTENTS BECOMING CLOSED IN BY PERITONITIS.—Dr. T. A. EMMET related the following case: In July last a woman with a supposed ovarian tumor was brought to his office from Memphis, having been taken from her bed during an attack of peritonitis, and arriving more dead than alive. She was placed under Dr. Harrison's care, and it was determined, if she recovered sufficiently from the peritonitis, to perform ovariectomy, which was accordingly done in the middle of July. Dr. Emmet found to his surprise, on cutting through the abdominal wall, that he had opened directly into a large space. The fluid, which was dark, not unlike ink in appearance, was emptied out apparently from the abdominal cavity and not from an ovarian sac. As soon as the cavity had been washed out, numerous long and large strips of membrane, apparently composed of the walls of the sac, were readily peeled off. On reaching the portion covering the stomach there appeared to be another cyst, but it proved to be the distended stomach. The case evidently was one of ovarian tumor which had ruptured, and the contents become encysted by the products of inflammation; the walls then rotted, or softened, and could be peeled off in the manner mentioned. He had never seen a similar case. Dr. Harrison would give the result and the history of the after-treatment.

Dr. G. T. HARRISON said that after the operation he continued to irrigate the cavity very freely with an antiseptic fluid, and it sometimes required an hour and a half before the liquid came away clear. This was continued for some weeks. Finally the patient was able to sit up, had a good appetite, and was doing well when symptoms of intestinal obstruction developed. Dr. Lee, and afterward Dr. Weir, were called in consultation. Dr. Weir opened the abdomen, and, as was believed, relieved the constriction. But it proved not to be so. The intestine was then opened and stitched to the abdominal wall. A further exploration was contemplated if necessary the next day, but the patient died in the mean time. At the post-mortem an adhesive band, stretching from one coil of intestine to another, was found to have been the cause of the constriction. Had it been discovered during life, the patient might easily have been relieved.

The PRESIDENT said a very important question was raised by this report, namely, as to just how far we should interfere in searching for an intestinal obstruction. There could be no doubt that when the surgeon searched for any great length of time, feeling around in the abdominal cavity, he jeopardized the patient's life by that procedure alone, and yet, on the other hand, if he did not do so he was liable to have the mishap which occurred in this case. The question had been raised before, but its importance would justify further discussion if any of the members had any suggestions to make.

PAPILLOMATOUS OVARIAN TUMOR AFFECTING THE PERITO-

N.EUM.—Dr. Dawson reported a case as follows: About a year ago Dr. Griswold sent a patient to his office with a view of ascertaining the character of a mass which he had detected in the pelvis. Dr. Dawson made an examination, and found a slightly fluctuating mass occupying the whole left pelvic region, somewhat movable, but not sufficiently so to point distinctly to a free ovarian cyst. The patient complained only of occasional pains and some dysmenorrhœa. That the mass contained fluid seemed very evident to Dr. Dawson, although Dr. Griswold believed differently. He made arrangements to see the patient again within a few weeks, with a view to proving the fluid nature of the tumor. He was then disposed to think it an ovarian cyst, but aspiration was decided upon to make the diagnosis positive. About a pint of cloudy fluid was withdrawn, which, under examination, pointed to an ovarian cyst. The patient was a strong woman, in good health, and was advised to let the tumor alone for the time being, and report further. She returned with Dr. Griswold last autumn, saying that she suffered a great deal of pain. The mass was found to have become considerably larger. It was still rather immovable and not connected with the uterus, and, from the history of the case and the examination of the fluid, he was still of the opinion that it was an ovarian cyst. Dr. Lee saw the patient, and concurred in the diagnosis. The patient was told that, if her condition demanded relief, she might return and an exploratory incision would be made. She returned on the 19th (15th?) of last month, complaining of marked distress. A purely exploratory opening was determined upon. An incision two inches and a half long was made, and it was noticed that at the lower angle of the incision there was a decidedly papillomatous appearance. All the gentlemen present were immediately struck by the papillomatous development of the peritonæum which had been incised. As was expected, an ovarian tumor was found firmly adherent to the intestines and to all surrounding parts, and Dr. Dawson decided not to remove it, but to sew up the abdominal wound and, if necessary, establish drainage by the vagina subsequently. The temperature did not rise above 100° F. at any time; in eight days the patient was sitting up, and on the twelfth was walking about, no unfavorable symptom having developed. As the general health was becoming affected, and the patient showed the peculiar *facies*, a rapid destruction of life was looked for. Very strict cleanliness was observed, the towels and the napkins were carefully washed, the patient was bathed, the operating-room was scrubbed, all under Dr. Dawson's immediate supervision. But, further than strict cleanliness, antiseptics were not employed.

Dr. EMMET remarked that there was generally but little vitality left in these patients, and they often died on the operation-table.

Dr. Dawson thought it would have been better for his patient had his expectations been fulfilled, and she had died from the operation. But, as it was, she made a remarkably good recovery, and that notwithstanding he had been unexpectedly compelled to employ improper sutures in closing the wound.

SUPPOSED ACUTE YELLOW ATROPHY OF THE LIVER WITH PREGNANCY.—Dr. CHAMBERLAIN gave the history of the following case, for the purpose of asking a question regarding diagnosis. He had been called in consultation to see a primipara in the middle of the seventh month of pregnancy, who had been attacked with intense pain across the epigastrium. No cause for indigestion, nor for the agonizing pain located at the epigastrium, had been recognized. It was shortly followed by colliquative diarrhœa to the extent of seven or eight passages. Then there came dark vomiting. These phenomena perhaps occupied the first twelve to fourteen hours. When he first saw her

she was very decidedly pallid, and was very tender across the epigastrium, but not lower down on the abdomen. She was of small frame, and the tension of the abdomen was such that little could be determined by palpation and percussion. He believed the case to be one of icterus malignus, or acute yellow atrophy of the liver—a very rare disease, but which in at least half the recorded cases had occurred in the young parturient woman. The icterus increased, the pain in the epigastrium did not diminish, and could only be controlled by morphine. The diarrhœa ceased, and the patient passed into a typhoidal condition. He had expressed the belief that premature labor would occur. Labor began on the third day, and was completed within about sixteen hours. Having seen but one case of acute yellow atrophy, in which the patient died the second day after delivery, he had but little doubt that such would be the issue in the present case. Although the pains were weak, yet the pelvis was roomy, pregnancy had advanced to only seven months and a half, and delivery was effected by the unaided efforts of nature. As it had been noted that hæmorrhage usually attended such cases, the patient was given a full dose of ergot just before delivery. From the day of delivery the woman improved. At the time of delivery the temperature was 103° F., the tongue was brown, the intellect wandering. She gradually came out of this condition, and was now believed to be convalescent. So far as reliance could be placed upon a physical examination, under the circumstances, the left lobe of the liver was retracted. The question arose whether this was really a case of icterus gravis, or acute yellow atrophy, in which recovery took place. An interesting feature in the case was, that, although delivery had been completed naturally, he was much surprised to hear the next day that there was a certain black swelling upon the vulva. Her family physician, upon examination, found the surface of one labium gangrenous, and this afterward sloughed. From the low and typhoidal condition of the patient, and from the presence of a constantly breaking-down mass of gangrenous tissue in the vulva, he thought they were in a very fair way for all the sequelæ of sepsis, but there were none. The tissues, as fast as they broke down, were detached, and antiseptic irrigation was employed.

Dr. A. JACOBI asked what the condition of the urine was.

Dr. CHAMBERLAIN said there was no tyrosin, leucin, nor albumin. There were a few blood discs. In the case of acute yellow atrophy of the liver already referred to, the vomiting and the diarrhœa did not cease until death.

HENRY J. GARRIGUES, M.D.,

B. F. DAWSON, M.D.,

FRANK P. FOSTER, M.D., *ex officio*,

Committee on Publication.

Miscellany.

THERAPEUTICAL NOTES.—*Tobacco as an Antizymotic.*—There is a popular notion that the use of tobacco is in some degree a protective against the infectious diseases. In the "Montpellier médical," quoted in the "Bulletin général de thérapeutique," Dr. Pecholier supports this belief, saying that he considers tobacco an energetic parasiticide capable of acting upon microzymes and microbes, and that, while he thinks its abuse liable to produce well-marked effects on man, he is nevertheless convinced that it is capable of rendering important service in protecting him against epidemic and contagious diseases. He lays particular stress on the immunity against phthisis acquired by workers in tobacco.

Osmic Acid in the Treatment of Peripheral Neuralgias.—Dr. A. Eulenburg ("Berliner klinische Wochenschrift," 1884, No. 7; "Centralblatt für klinische Medicin," April 19, 1884) gives his experience with the hypodermic use of osmic acid in the treatment of peripheral neuralgias, in which he used a one-per-cent. solution. Twelve cases were treated, the dose being almost always 0.06 grammes. In no instance were any unfavorable effects produced. The duration of the treatment was from one to six weeks, and the number of injections in the individual cases varied from three to fourteen. The cases included trigeminal, occipital, brachial, intercostal, lumbo-sacral, sciatic, and multiple neuralgias, partly recent and partly of long standing. The injections were always given *in loco morbi*—i. e., as near as possible to the affected nerve. The results were not very inspiring—out of twelve cases, only three cures (without relapses within a period of from two to fourteen weeks), with four of greater or lesser improvement and five of total failure. The three cases of cure were rather recent and uncomplicated cases, apparently of neuritic or perineuritic origin. The quantity of osmic acid used in these three cases was between 0.025 and 0.4 grammes. The author thinks it certain that the drug is not wholly inoperative in peripheral neuralgias, but that it is in no sense a specific.

Paraldehyde in the Treatment of Delirium Tremens.—Gugl ("Zeitschrift für Therapie," 1884, No. 4; "Centralblatt für klinische Medicin," 1884, No. 20) speaks highly of the action of this drug in delirium tremens, on the strength of three cases treated with it. In every instance it proved a prompt hypnotic, and in no instance were unpleasant symptoms produced. The dose was usually given with twice or three times the same amount of tincture of orange-peel, with syrup of orange-peel, or in about one eighth of a litre of sweetened water, the whole making a mixture against which the patient's befuddled sensorium did not rebel. The author considers paraldehyde absolutely free from danger, even in doses of six to eight grammes.

THE WATERS OF SULPHUR SPRINGS, TEXAS.—Dr. J. M. Hooper, of Sulphur Springs, Hopkins County, Texas, sends us the following analyses of the water of two wells in that town. There is one well, he remarks, that has not yet been examined, which is thought, however, to be superior to these. He adds that he will be happy to answer any questions about the waters of the various wells in the town.

The water of the Weaver Well is acid in reaction, with a specific gravity of 1.008, and each gallon contains the following solid constituents:

	Grains.
Sulphate of ferric oxide	33.421
Sulphate of aluminium	23.235
Sulphate of magnesium	24.345
Sulphate of lime	45.678
Sulphate of sodium	1.342
Sulphate of potassium	0.849
Chloride of sodium	1.360
Carbonate of lime	4.286
Phosphate of lime	0.633
Silicic acid	1.425
Free sulphuric acid	1.211
Nitrous acid	a trace.
Organic matter	2.473

The Pate Sour Well, also of acid reaction, has a specific gravity of 1.0096, and in each gallon the following solid constituents have been found:

	Grains.
Calcic sulphate	84.713
Ferric sulphate	63.194
Magnesian sulphate	22.991
Sodic chloride	5.017
Silex	1.944
Organic and volatile matter	3.797
Free sulphuric acid	1.321
Iodine	a trace.

AN UNINTENDED TRIBUTE TO VIRCHOW.—Prince Bismarck is reported to have said recently, in a letter declining an honor that had

been proffered him, that nothing under Heaven would tempt him to become in any way a colleague of Virchow's.

PREHISTORIC MAN IN EGYPT AND SYRIA.—At the request of the Council of the Victoria Institute, of London, we publish the following:

"A gala meeting was held by the Victoria Philosophical Institute of London in the second week in May, at which its members gave a worthy welcome to Vice-Chancellor Dawson, C. M. G., of McGill University, Montreal, at whose instance the British Association visits Canada this year. The Society of Arts kindly lent its premises for the occasion, and its great theatre was crowded in every part long before the hour of meeting. The chair was taken by Sir H. Barkly, G. C. M. G., K. C. B., F. R. S., who—after the new members had been announced by Captain F. Petrie, the secretary—welcomed Dr. Dawson amid loud applause, and asked him to deliver his address: It was on 'Prehistoric Man in Egypt and Syria,' and was illustrated by large diagrams, also flint implements and bones collected by Dr. Dawson himself on the spot during his winter tour in the East; Professor Boyd-Dawkins, F. R. S., kindly assisted in the classification of the bones. In dealing with his subject, Dr. Dawson remarked that great interest attaches to any remains which, in countries historically so old, may indicate the residence of man before the dawn of history. In Egypt, nodules of flint are very abundant in the Eocene limestones, and, where these have been wasted away, remain on the surface. In many places there is good evidence that the flint thus to be found everywhere has been, and still is, used for the manufacture of flakes, knives, and other implements. These, as is well known, were used for many purposes by the ancient Egyptians, and in modern times gun-flints and strike-lights still continue to be made. The debris of worked flints found on the surface is thus of little value as an indication of any flint-folk preceding the old Egyptians. It would be otherwise if flint implements could be found in the older gravels of the country. Some of these are of Pleistocene age, and belong to a period of partial submergence of the Nile Valley. Flint implements had been alleged to be found in these gravels, but there seemed to be no good evidence to prove that they are other than the chips broken by mechanical violence in the removal of the gravel by torrential action. In the Lebanon, numerous caverns exist. These were divided into two classes, with reference to their origin, some being water-caves or tunnels of subterranean rivers, others sea-caves, excavated by the waves when the country was at a lower level than at present. Both kinds have been occupied by man, and some of them undoubtedly at a time anterior to the Phœnician occupation of the country, and even at a time when the animal inhabitants and geographical features of the region were different from those of the present day. They were thus of various ages, ranging from the post-Glacial or Antediluvian period to the time of the Phœnician occupation. Dr. Dawson then remarked that many geologists in these days had an aversion to using the word 'Antediluvian,' on account of the nature of the work which, in years now gone by, unlearned people had attributed to the flood described in Scripture; but, as the aversion to the use of that word was, he thought, not called for in these days, he hoped it would pass away. Speaking as a geologist, from a purely geological point of view, and from a thorough examination of the country around, there was no doubt but what there was conclusive evidence that, between the time of the first occupation of these caves by men—and they were men of a splendid physique—and the appearance of the early Phœnician inhabitants of the land, there had been a vast submergence of land, and a great catastrophe, aye a stupendous one, in which even the Mediterranean had been altered from a small sea to its present size. In illustration of this, the caverns at the Pass of Nahr-el-Kelb and at Ant Elias were described in some detail, and also, in connection with these, the occurrence of flint implements on the surface of modern sandstones at the Cape or Ras near Beyrout; these last were probably of much less antiquity than those of the more ancient caverns. A discussion ensued, which was taken part in by a number of distinguished Fellows of the Royal Society, including Sir H. Barkly, F. R. S., Professors Wiltshire, F. R. S., Warrington Smyth, F. R. S., Rupert Jones, F. R. S.; Colonel Hirschel, F. R. S., the talented son of the late Sir John Hirschel; Dr. Rae, F. R. S., the Arctic explorer; Dr. Dawson, F. R. S.; Mr. D. Howard, the vice-president of the Chemical Institute, and other geologists."

Lectures and Addresses.

THE CARTWRIGHT LECTURES

ON

METHODS OF STUDYING THE BRAIN,

DELIVERED BEFORE THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, FEBRUARY 2, 4, AND 6, 1884.

By BURT G. WILDER, M. D.,

PROFESSOR OF PHYSIOLOGY, COMPARATIVE ANATOMY, AND ZOOLOGY IN CORNELL UNIVERSITY, AND OF PHYSIOLOGY IN THE MEDICAL SCHOOL OF MAINE.

LECTURE III, PART II.

Methods of Illustration and Description.

THE second part of the third lecture includes the following matters:

I. Enumeration of some points in normal, macroscopic, encephalic anatomy which require elucidation.

II. Suggestions as to modes of illustration.

III. Suggestions as to terms of designation and methods of description.

IV. List of technical macroscopic encephalic terms, with some of their synonyms.

V. List of publications referred to, with a brief commentary on modes of reference.

I. In the first lecture (this journal, February 9th, p. 142) reference was made to "the not unnatural tendency of writers and teachers to ignore the necessity for more information than they themselves possess." Direct admissions that variations may occur, that more facts are needed, and that contrary views are held, are by no means too common in original publications; from compendiums and text-books they are almost wholly absent.

The consequences affect the student, the author, and the progress of science. The student feels no stimulus toward investigation, and either becomes an unceritcal plodder, doing little credit to himself or his instructors, or, upon discovering that some hiatus has been concealed, undergoes the natural reaction, runs to the opposite extreme, and doubts or denies everything. In the one case he makes no effort to create new knowledge; in the other the desire may exist, but is overpowered by an abnormal development of the destructive propensity; he is so intent upon rooting up the weeds of error that the seeds of truth are not even planted.

Against these two pathological mental conditions—*research-atrophy* and *criticism-hypertrophy*—the only natural and certain safeguard seems to be for writers and teachers (1) to draw a sharp line between (a) what they *know*, (b) what they *believe*, and (c) what they *anticipate*; between the proved, the probable, and the possible; (2) to recognize distinctly and admit freely the gaps in their own knowledge; (3) to point out the directions in which fruitful inquiry may be made.

Thirteen years ago I devoted a considerable portion of a paper (10) to the "Indication of General and Special Problems" connected with "Intermembral Homologies."

In "The Brain of the Cat" (14) about thirty points were enumerated as in need of elucidation, and the "Anatomical Technology," as stated in the preface, differs from most laboratory manuals in that "Attention is called to the incompleteness of our information upon certain points."

In accordance with the principle and the precedents above mentioned, and with the hope of arousing others to co-operate in the clearing up of encephalic obscurity, I select a few of the topics which merit further examination.

Arachnoidea.—By some writers it is still held that this membrane consists of two layers, parietal or dural, and visceral or pial; others admit only the visceral layer, and recently the existence of even this has been denied. Those who entertain the first view should give clear figures and descriptions of the lines of reflection of the arachnoid from the pia to the dura, and those who admit no such membrane at all should give some name to the membrane which any one can see bridging cerebral fissures and the intervals between the encephalic segments. Upon the supposition that this is the arachnoid, its relations to the pia and to the various interspaces are by no means fully understood; each region should be figured and described separately and in detail.

Bulbus postcornu et Eminencia collateralis.—How constantly present are these entocellian elevations? Do they exist in the primates generally?

Development of the Callosum.—In the embryo and in the lower mammals which part of the callosum appears first, the genu, the "body," or the splenium? Opposite opinions have been expressed by Flower (13, 637) and Balfour (ii, 365).

Cimbia.—Aside from the microscopic and physiological aspects of this part, it has been shown already (this journal, April 5th, p. 373) to merit fuller macroscopic consideration.

Conarium ("pineal body").—What are its exact relations with the pia and the endyma? Is the "brain sand" present in other mammals than man?

Fasciola ("fascia dentata").—What are the nature and significance of the alleged serrations? Do they disappear, as stated by Meckel (II, 465), on removal of the pia? Are they constant in man, and do they exist in other mammals? They do not appear in the cat (14, 556; W. and G., 478).

Flocculus.—Most figures and descriptions of this cerebellar appendage are unsatisfactory. Is it homologous with the lobus appendicularis, which is so large in many monkeys, in bears, and in some other mammals?

Homologies of the primatial Fissura centralis ("fissure of Rolando") and the *carnivora F. cruciata*.—On both morphological and physiological grounds the determination of the homologies of these two fissures is very desirable. The diversity of opinion is indicated in "Anatomical Technology" (502), and the alleged correspondence of the two fissures with each other was doubted and discussed before the American Neurological Association (33). Special lines of fissural inquiry are suggested in the work just named (503).

Insula ("island of Reil").—By what particular region

is this represented in the brains of other mammals than primates?

Medicommisura.—The transectional area of this is commonly represented as circular, but Henle (Figs. 36, 38, 39) makes it semicircular. What are its usual shape, size, and position? How frequently is it absent or duplicated? What is the color of its section when fresh? Does it exist in all mammals and in any immammalia? * How and at what period is it formed?

Metacelian foramina.—Is there but one Foramen Magendii, or are there three—one mesal, and two lateral? What are their precise locations and boundaries? Are they valvular, and, if so, does liquid pass either way with equal facility? How and at what period of development are they formed? Are they constantly present? For some discussion of this matter see this journal, April 26th, p. 458. Do they exist in man only, or in all primates, or all mammals, or also in other vertebrates?

Metatela.—The "roof of the fourth ventricle" is one of the "debatable grounds." In man and the higher mammals it is usually mutilated in the removal of the brain, or in lifting the overhanging cerebellum therefrom.

Plexuses.—In addition to what has been suggested in earlier lectures, there is something to be learned respecting the location and character of the metacelian plexuses, which are very inadequately described and figured in standard works.

Pons.—Is there any rudiment of this in immammalia?

Præcornu.—As shown in Figs. 55 and 56, this is continued as a rhinocoele in the cat, but not in the human brain, excepting, perhaps, at an early period. In what other mammals is the rhinocoele occluded? What is the form of the closed end of the præcornu? Is the ridge which appears near its tip in Fig. 56 constant? If so, what is its significance?

Prægeniculatum ("external geniculate body").—In the cat this is much larger relatively than in man, and forms an insensible transition from the thalamus to the Tractus opticus. The topography of this region—the lateral aspect of the mesen and dien—is rarely represented or described with sufficient distinctness, and even the admirable figures in Quain (II, Fig. 261) and Gegenbaur (D, Fig. 502) could be improved.

Rima.—The need of additional information respecting its margins and the distal end was indicated in Lecture II (this journal, April 5th, p. 376; April 26th, p. 460).

Rostrum et pedunculi callosi.—The relations of these parts to the terna (lamina cinerea), the pseudocele ("fifth ventricle"), and præperforatus ("anterior perforated space"), are not clearly shown in any work known to me. It is doubtful whether the "peduncles" are such in any strict sense of the word.

Striatum.—In what mammals besides man does the cauda extend to the tip of the medicornu?

Tenia.—What are its relations to the striatum, the thalamus, the endyma, and the vena striati? How does it terminate? In what other mammals does it exist?

Thalamus.—In addition to the doubts suggested in connection with its alleged appearance in the floor of the procele, the existence and extent of the pulvinar in other mammals are to be ascertained; also, whether the cephalad end is usually or distinctly emarginate to form the caudad wall of the porta.

The foregoing are but a few of the special points upon which observation and thought may profitably be expended. Confining ourselves to the features of the human brain that are visible to the naked eye, there are few, if any, which have been described and figured with the accuracy and fullness warranted by present interest in the organ. Comparative anatomy presents an almost unlimited field for study. Even if we accept the restrictions indicated for the medical practitioner in Lecture I (this journal, February 9, p. 147), certain generalizations as to the presence of commissures, etc., are always desirable, and not even the most prosaic of doctors can deny the interest that attaches to the determination of the real bodily distinctions between man and the other mammals—the constant peculiarities of the human brain. Some of these have been hinted at already. The entire subject is too extensive for more than mention upon this occasion.

II. *Suggestions as to Figures*.—For the most part these suggestions apply to all branches of Natural History, but with especial force to the human brain, on account of its softness when fresh, the difficulty of preserving it, the great size of the entire organ, the minuteness of certain portions, the large number of recognizable parts within a small area, the continuity of all, the contiguity of some which are otherwise associated but remotely, the intermixture of two differently colored substances, the complicated relations of the three membranes to each other, to the vessels, and to the cavities, and the preponderance of curved and oblique contours over straight lines and planes.

A. Terminal and limiting parts, membranes, and apparently atelic (functionless) parts and conditions should be distinctly shown, or the insufficiency of their representation admitted. "The little things of the brain" might well form the subject of an entire lecture. From the standpoints of physiology and medical practice, such parts as the terna, valvula, crista, conarium, hypophysis, and habena, and such conditions as the reflection of the endyma upon the plexuses, and the dorsal limitation of the porta, are of comparatively slight importance; but their morphological significance is, at least in some cases, inversely to their functional activity, and they can not be ignored without endangering the success of any attempt to understand or explain the structure of the brain.

Anatomical figures should be something more than pictures conveying a general and vague idea. Where is there an adequate representation of the relation of the diatela to the habense, and of the cephalad end of the latter? Where an intelligible figure of the tip of the rostrum and its relation to the terna? From the published figures, could any student be expected to comprehend the locations and boundaries of the "foramina of Monro" and of Magendie? The tenia is easily enough shown as a white band throughout most of its course, but where are its extremities accurately

* Other vertebrates than mammals.

delineated? Any one can see the caudate prolongation of the striatum, but representations of its termination at the tip of the mediacornu are as rare as are figures of the extremity of the filum terminale. Even so considerable a part as the flocculus is seldom figured in such a way as to display either its form or its attachment.

The avoidance of the morphological incongruities and deficiencies which are to be detected in nearly every portrayal of encephalic anatomy demands the admission of three propositions, which are mere truisms in themselves, but radical affirmations when contrasted with their almost universal non-recognition in anatomical works:

1. Every part, organ, membrane, or surface is either limited or continuous with some other part. If limited, its limits must be defined; if not, its extension must be indicated.

2. Every cavity is either open or closed. If closed, the continuity of its parietes must be demonstrated; if open, its communications must be shown.

3. Every elongated part has a middle and two extremities; not only the former but the latter must be represented.

B. Figures—original ones especially—should be multiplied and descriptions reduced. In descriptive anatomy, whether human or comparative, the text should be subordinate to the illustrations. Some treatises (Charles Bell, Meckel, Milne-Edwards, etc.) seem to have been prepared upon the idea that the description is essential and the figures merely supplementary; on the contrary, words should be employed only when pictures will not suffice—that is, for explanation, commentary, generalization, hypothesis, and manipulative directions.

In this respect little, if any, fault can be found with most recent works upon the brain. In Quain and Gray there is at least one figure for every two pages, and in Allen the ratio is yet higher.

The arguments for following such worthy examples may be summarized as follows:

1. A figure is usually a guarantee that something like the object represented has been seen, at least by the artist, and that a certain amount of time has been devoted to its contemplation.

2. The information conveyed by a figure is more real, and likely to be more lasting, than that which is expressed in words. In respect to reality and impressiveness, the sources of knowledge may be ranked as follows, in an ascending scale: (1) Description; (2) picture; (3) model; (4) object seen; (5) object handled; (6) object personally prepared. The picture is thus intermediate in value between the thing itself and a description thereof.

3. A figure, if clear and properly placed, is more readily understood than a description, and a saving of time is thus effected. It may be easier for the author to write than to draw, or even than to supervise a drawing, but his personal inconvenience or loss of time should not outweigh the gain to his readers. This applies particularly to dictionaries, cyclopædias, and journals, which are commonly read or consulted in haste. Editors and publishers would find eventual profit in offering to authors the fullest encouragement to employ illustrations so far as possible, and curtail their de-

scriptions in proportion. That it is rather the exception than the rule for such encouragement to be offered is probably due to several causes: *a*, publishing houses have always a staff of printers who must be employed, whereas the various processes involved in the making of pictures must usually be done outside at extra expense; *b*, authors too often content themselves with carelessly made copies of "stock figures" instead of insisting upon original representations of objects prepared by themselves. Hence, on the one hand, the exceptionally liberal publisher is liable to get a poor return for any allowance made for drawings, and, on the other, the exceptionally painstaking author is apt to be told that, at best, the engraving will be done if he will furnish the drawings; and, if he can not draw himself, their cost is likely to deter him from their introduction. In short, all the existing conditions work to the disadvantage of the reader, who gets but a "pennyworth of [pictorial] bread to a monstrous deal of [verbal] sack."

Before this state of things can be amended, the authors of books and papers must see clearly the importance of illustration; to paraphrase a witty saying as to the making of an index, the figures should be personally superintended by the author, even if some one else has to write the text.

4. Figures usually occupy less space than descriptions conveying an equal amount of information. This means condensation, convenience, and economy in the present, and a due consideration for our successors in the not far distant future. Exact data are not accessible to me, but no thoughtful and public-spirited person (unless he be a publisher or printer) can contemplate without concern the logical results of the present rate of literary production. Taking only medical works and periodicals, the practitioners and librarians of a hundred years hence will be embarrassed, if not overwhelmed, by the abundance of what we call riches and flatter ourselves in bequeathing to posterity. Long before that time, together with the inevitable demand that none shall enter the medical profession without the highest mental, physical, and moral basis, the would-be author may be forced to prove in advance that he has not been anticipated by others, that he has not used two words where one would suffice, and that he has written only what could not be exhibited to the eye. So, too, just as we find that, to secure in an exhibition case the maximum of glass and the minimum of frame, the chief constructor must be a glazier rather than a carpenter, in that time an establishment for natural-history publication may be directed, not by the promoted printer, but by the artist who possesses likewise the requisite executive ability. Then, too, both the value of figures and the labor of superintending their preparation may be so fully appreciated that not only will they be freely provided, but, in the case of paid contributions to periodicals, reckoned as part of the author's direct contribution.

C. Borrowed figures should be fully credited, and all modifications, whether of size or features, explicitly stated. To copy is to compliment, but unacknowledged copying is theft, and unspecified change is misrepresentation.

The ill-effects of omitting to state the source of a figure are two: 1. The originator loses credit to which he is justly entitled. 2. The reader may be seriously misled by the ap-

parent duplication of some really unique feature or the confirmation of an error. For example, in the representations of the meson of the cat's brain by Leuret (Leuret et Gratiot, Pl. V, Fig. 2), the pseudocoele ("fifth ventricle") is made even more extensive than in man, reaching almost to the splenium. The figure is reproduced, without credit or correction, in Mivart (B, Fig. 129). Whoever remarks the coincidence in respect to the pseudocoele, but fails to note that one figure is simply a copy of the other, may naturally infer that the feature in question is normal, or at least not anomalous.

On the other hand, if informed that three of Mivart's figures (125, 126, 129) were copied from Leuret, the student might conclude that the representation of the base of the brain (Fig. 128) was derived from the same source; this would be most injurious to the reputation of Leuret, for the figure in question displays several features (the size and direction of the hypophysis, the disconnected fissure on the Lobus temporalis, the relations of the pons to the trigeminus and abducens nerves) which it is safe to say never were observed in a feline brain.

Nor is it enough to give the sources of figures in a list, or in the preface, as in Huxley's "Vertebrated Animals"; so great is the labor of preparing an original figure that the acknowledgment of it should be equally as explicit as that of a verbal quotation.

Finally, in the case of modified figures, it needs but a moment's reflection to see that nothing short of an accurate statement of the nature and extent of the alteration can insure full justice to the originator.

(B) Drawings should be made as notes. In many cases an outline* drawing, even if hastily made, would convey to the maker, or any one else, at a future time more prompt and complete information than could be embodied in writing covering the same space. But the general employment of sketches, in addition to words, or in place of them, can hardly be looked for until children are taught to draw the intelligible objects about them before they are drilled in the making of the—to them—unmeaning pot-hooks of the alphabet.

D. Figures should be more frequently employed in preliminary or incomplete publication. Probably one of the reasons for the comparative infrequency of pictorial representations of normal, abnormal, and pathological structures, especially in journals, is the difficulty, often the impossibility, of preparing a detailed figure in time for publication. There are, of course, obstacles in respect to partial illustration which do not apply to partial description (as stated in Lecture I, this journal, February 16th, p. 179), but they are not insuperable. For example, the brain of the chimpanzee mentioned in Lecture II (this journal, February 23d, p. 209) is capable of at least four degrees of macroscopic illustration: 1, As to outline and the relative proportion and posi-

tion of the principal parts; 2, as to the fissures; 3, as to the other ectal features, including the mesal aspect; 4, the ental features, ascertainable by dissection. Now, it might be thought best to defer dissection of so rare a specimen for years; it might be months before it would be possible to publish a detailed account of its ectal features, or fissures, in comparison with those of other apes and man; but all these considerations need not, and did not, prevent the speedy presentation of the general outlines, involving a single point of special importance.

E. Figures should be based upon photographs. Photography enables the anatomist to (a) record the appearances of perishable specimens, or of such as are in course of dissection; (b) insure the proper perspective; (c) save time and labor upon the part of the draughtsman, and thus either reduce the cost of the drawings or render a larger number attainable.

It is seldom that a single anatomical preparation is so perfect as to display all that is needed, and yet present no superfluous parts; often, too, certain points are to be brought out with "diagrammatic clearness," others being subordinated or omitted altogether. Hence, as a rule, the photograph forms rather the basis for the completed figure, and two or more similar preparations may be required for the elucidation of all the desired features. But, as well remarked by Professor Gage (17, 443), the advantages of being able to exhibit a photograph in connection with a figure or a preparation, or in place of the latter, constitute, indirectly, an incentive toward more careful manipulation.

A chief obstacle to the employment of photographs as a basis for figures of brains and embryos has been the difficulty of supporting such delicate objects within range of the camera in its usual horizontal, or nearly horizontal, position. This obstacle is wholly removed by the photographic table devised by Professor Gage and used in the Anatomical Laboratory of Cornell University since 1873. With this the camera may be readily adjusted to any angle, and brought into a vertical position so as to cover an object lying upon cotton, or in alcohol, or even alive in water (see Figs. 1, 6, and 10, this journal, February 9, 1884).

(To be concluded.)

Original Communications.

CONGENITAL DEFORMITY OF THE HAND; COMBINED ECTRODACTYLISM AND SYNDACTYLISM.*

BY ALFRED C. POST, M. D., LL. D.,

EMERITUS PROFESSOR OF CLINICAL SURGERY IN THE MEDICAL DEPARTMENT
OF THE UNIVERSITY OF THE CITY OF NEW YORK, ETC.

November 3, 1883.—C. W. J., a healthy and otherwise well-formed young man, twenty years of age, was brought to my

* There is a general and almost unconquerable predilection for shaded drawings. However advantageous shading may be in ordinary art as an element of finished pictures, and when merely a general effect is desired, in anatomical figures correct outlines are essential, and shading should be deferred until the last; otherwise it is too apt to "cover a multitude" of inaccuracies.

* Read before the New York Surgical Society, May 27, 1884. The terms ectrodactylism and syndactylism are derived from the Greek *δάκτυλος*, a finger, with the prefixes *ἐκτρομα*, an abortion, and *σύν*, together.

clinic with a congenital deformity of his left hand, as seen in the cast herewith presented. There was absence of the index



and little fingers and of the corresponding metacarpal bones. The thumb and the middle and ring fingers were well developed, and their movements of flexion and extension were not deficient in force. The two fingers were webbed together throughout their whole length. From the normal position of the commissure, as far down as the middle of the second phalanges, the uniting medium was of moderate thickness, consisting of the dorsal and palmar integument, with loose cellular and adipose tissue. The terminal extremities of the two fingers were joined together immovably throughout their whole thickness, and the middle finger, being considerably longer than the ring finger, was necessarily bent, and could not be straightened. A single very wide nail covered the dorsal surface of the terminal extremity of the two fingers, having a superficial longitudinal groove to indicate the normal line of separation of the fingers.

The patient being etherized, I performed the following operation: I divided the cutaneous portion of the web with a scalpel, and then divided the nail and the deeper tissues with a cutting bone-forceps. There was a small amount of bony union of the terminal phalanges. After the bleeding had been arrested, I was able to bring the dorsal and palmar integument together on the side of each finger, with fine silken sutures, from the position of the normal commissure, about half way down to the ends of the fingers. I wound strips of adhesive plaster around each finger separately, and then secured the two fingers with a roller bandage to a padded dorsal splint extending from the ends of the fingers, above the middle of the forearm.

5th.—I removed the splint and applied fresh strips of adhe-

sive plaster around each finger. I then covered the fingers with lint secured by a roller bandage. As the splint was irksome to the patient, I did not at this time reapply it.

10th.—The edges of the wound had receded. The cuticle had separated from the cutis. I removed the sutures and dressed the fingers separately with strips of India-rubber adhesive plaster.

17th.—A portion of the integument of the ring finger has sloughed, and a small portion of the base of the middle phalanx is bare. The middle finger is doing well.

19th.—Directed the fingers to be dressed with carbolized vaseline, and reapplied the dorsal splint.

December 8th.—The middle finger is almost entirely cicatrized. The ring finger is in a much better condition than at the time of the last report, and the healing process is going on favorably.

29th.—The middle finger is healed. The commissure between the middle and ring fingers is entirely healed. The ring finger is nearly cicatrized. The middle finger now projects about 12 mm. beyond the ring finger.

January 5, 1884.—Cicatrization complete. Splint discontinued.

12th.—The middle finger has become somewhat distorted since it has lost the support of the splint, which was accordingly reapplied to-day.

19th.—The shape of the finger is improved. Continue splint.

Soon after the last date the patient discontinued his attendance.

The result of the treatment was entirely successful in overcoming the syndactylism. But the middle finger had been so long distorted by its abnormal fusion with the ring finger that it is somewhat doubtful whether it will ever assume its perfect normal configuration.

The combination of ectrodactylism with syndactylism in the case which I have presented is a rather unusual one; but Holmes, in his work on the "Surgical Treatment of the Diseases of Childhood," gives an illustration of a case resembling it, except that the fusion of the two fingers was not so complete, each of the two fingers having a separate nail. The thumb also was more widely separated from the fingers, standing out at right angles with the carpus. Both hands and both feet were affected with syndactylism.

In connection with the case which I have reported, I will present a few facts relating to the two varieties of malformation, which usually occur separately, but which in this patient were combined.

Ectrodactylism is more rare than syndactylism. The deficiency may involve a single finger or the thumb, or several or all of the fingers may be wanting, or may be in a state of very imperfect development. It may involve both hands or may be confined to one. Fort refers to thirty-two cases, in which the situation was indicated. Both hands were affected in twenty of these cases, the left hand in eight, and the right in four. In most cases only the fingers were wanting. In five cases the metacarpal bones also were absent. Some of the carpal bones are occasionally wanting. When the thumb and little finger are present, and the other fingers are absent, the hand has been compared with a lobster's claw.

Many cases of congenital absence of the thumb have been reported; in some of these the radius has been absent,

or imperfectly developed. The little finger is rarely wanting. Out of thirty-seven cases, the little finger was entirely wanting only in three, and in these the thumb and all the other fingers were absent. In two other cases the distal phalanx of the little finger was wanting.

Partial or entire absence of fingers has occurred in different generations of the same family, as in a remarkable instance reported in the "Edinb. Med. and Surg. Journal" for 1808, p. 252. As a general rule, when some of the fingers are wanting, those which exist have their full normal mobility and strength.

Syndactylism presents itself in two forms, viz., congenital and acquired. The congenital form may affect one or both hands; in the majority of cases both are affected. Sometimes the thumb and all the fingers are fused together. Sometimes all the fingers without the thumb. Any two or three may be joined together. When both hands are affected, different fingers may be involved in the two hands. The deformity is sometimes, but not often, hereditary. It is occasionally, but not usually, complicated with ectrodactylism or other deformities.

Syndactylism may be complete or incomplete. The complete form involves the whole length and thickness of the fingers, which have a common investment of skin, with perhaps a slight furrow, indicating the normal line of separation. In the incomplete form the uniting medium is comparatively thin, consisting of dorsal and palmar integument with more or less intervening cellular and adipose tissue. This uniting medium may extend the whole length of the fingers or only a part of their length; it may be quite narrow, or of considerable breadth. It is generally broadest and thinnest toward the distal extremities of the fingers. The fused fingers are usually of normal size and structure. When they are very firmly bound together they are apt to be smaller than in their normal state. There may be separate nails for the fingers, or a common nail of great breadth may extend over two or more fingers. The coalescence of the fingers may be almost complete, even involving the bony phalanges. The superficial palmar arch has been known to extend below the level of the normal commissure of the fingers. Bernier, of Besançon, reports a case in which a child was born with the thumb and four fingers all confounded, so as to constitute but one body, of the full breadth of the hand, and having a single nail at the extremity of the dorsal surface. The five toes were in like manner joined together. Dessaix reports a similar case.

Acquired syndactylism is the result of adhesion of two or more of the fingers by means of cicatricial bands following burns, or very severe mechanical injuries.

Many cases of syndactylism, whether congenital or acquired, are capable of being cured by a surgical operation. Where the fingers are all fused together in a common mass, as in the cases reported by Bernier and Dessaix, little or no benefit as to appearance or function is to be expected from treatment. In those cases of complete fusion, where only two or three fingers are involved, there is a better chance of success from an operation. Velpeau and Verneuil object to an operation where there is bony union. Fort objects to an operation when the fusion does not ex-

tend beyond the proximal phalanges, on the ground that in such cases the deformity and functional disturbance are but slight. When the thumb is fused with the index finger, an operation is especially important to the function of the thumb. When all the fingers are joined together by a cutaneous web, their separation is of less importance to function than to appearance, and, even in such cases, serious difficulties are sometimes encountered in the attempt to separate them. The general principles of treatment are the same in congenital and acquired syndactylism.

There is a difference of opinion among surgeons as to the most eligible time for an operation in congenital syndactylism. Chelius recommends waiting until the age of puberty. Nélaton, Maisonneuve, and Chassaingnac recommend an early operation. Verneuil prefers the age of three or four years. In acquired syndactylism in children, Verneuil advises a delay of one or two years after the occurrence of the deformity.

Until a comparatively recent period the operations which were performed for the relief of syndactylism were successful in a very limited degree, except in cases in which the uniting medium was broad and thin. The older surgeons contented themselves with a free division of the uniting medium, and the interposition of lint, bandages, or plasters between the fingers until the wounds were healed. The consequence was the healing by granulation and cicatrization, and the reunion of the lateral surfaces of the fingers with each other to a considerable extent below the normal commissures. And, for some time after the healing of the wounds, the persistent contraction of the cicatricial tissue caused the newly formed commissures to descend more and more toward the distal extremities of the fingers. In cases where the uniting medium is thin and broad, this retrocession of the commissures may be prevented by great care in the dressing of the wounds. After incising the web, or uniting medium, the edges of the integument of each finger should be closely approximated by strips of adhesive plaster throughout their whole extent, great care being taken to make firm pressure as close as possible to the newly formed commissure, which should be a little higher up than the normal separation of the fingers. The dressings should be frequently repeated, the parts being washed each time with a solution of mercuric bichloride, eight grains to the pint. The growth of granulations should be restrained by the frequent application of nitrate of silver, and the wounds should be sprinkled with subnitrate of bismuth. When there is an obstinate disposition to the growth of granulations from the space between the fingers, in addition to the means which have been mentioned, an elastic band may be applied between the fingers, and its two ends attached before and behind to a bracelet which is worn around the wrist. By this means any required degree of pressure may be maintained to repress the growth of granulations. In cases in which any considerable difficulty in overcoming the deformity is apprehended, it will be advantageous to establish one interdigital space completely before attempting the establishment of another. In this way pressure can be more advantageously maintained to approximate the edges of the wounds, and a more

abundant supply of material can be obtained to close the vacant spaces on the borders of the fingers.

When the uniting medium is very thick and narrow, advantage will be derived from making the incision encroach a little on the dorsal and palmar surfaces of one of the fingers, so as to leave a more ample supply of integument for the other. By this means the edges of the wound on the second finger may be healed by the first intention; and, although the healing of the other wound will be retarded, there will be no tendency to the re-establishment of lateral union between the two fingers. The healing of the wound which is left to granulate may be accelerated by skin-grafting.

Occasional instances of congenital syndactylism have occurred in which there was a small hole through the uniting medium just below the position of the normal commissure, the hole being lined with integument. In such cases, after division of the uniting medium from the perforation to the distal extremity, and separate dressing of the fingers, there is no tendency to coalescence, the skin lining the perforation being an effectual barrier to the descent of the commissure. The following case illustrates this condition, as well as the coexistence of ectrodactylism and syndactylism:

On the 23d of August, 1848, I saw a female child of Mrs. F., two months old. It was the first child of her parents, and was in good health, but deformed as follows: Right hand, thumb, and index finger perfect; the other three fingers have each only the first phalanx, and they are all webbed together throughout their whole length. The mother states that, when the child was born, a cord passed from the little to the ring finger over their truncated extremities, and that this cord was spontaneously ruptured at the age of three weeks, soon after which it disappeared. A little rudimental knob was also over the united ends of the middle and ring fingers; this also dropped off. Left hand: thumb perfect; each of the fingers has but two phalanges, the distal phalanx being deficient. The middle and little fingers each have a small pedunculated knob at the extremity. The index and middle fingers and the ring and little fingers are webbed at their distal extremities, but free toward the hand, so that a probe can be passed between them and moved freely. The middle and ring fingers are closely webbed together throughout their entire length, with the exception of a small perforation, barely admitting the passage of a probe, at the level of the normal commissure. The right foot is in its normal position, but the distal phalanx of the great toe is wanting. The left foot at birth presented a slight degree of varus, but, by the persistent manipulations of the mother, the position has been nearly rectified; the toes of this foot are all perfect.

On the 23d of August I separated the index from the middle finger of the left hand, and the ring from the little finger, bandaging the fingers separately, and on the 11th of September I separated the middle from the ring finger. The wounds all healed favorably, and the separation of the fingers was complete.

The favorable results of the operation in this class of cases, where there is a perforation between the fingers, have led surgeons to make an artificial perforation where the uniting medium was entire, and to maintain the opening by passing through it a metallic wire and leaving it in place until the circumference was cicatrized. When the web is broad and thin, such perforation is unnecessary. When it is narrow and thick, it is very difficult to secure cicatriza-

tion of the margin of the hole, and the attempt gives rise to a considerable amount of irritation. Upon the whole, I am not disposed to regard the method as one of great practical value.

Maisonneuve treated a case of syndactylism by including the uniting medium throughout its entire length between two wedges, acted on by screws so as to make pretty firm pressure, on the principle of Dupuytren's enterotome. It occasioned but little pain or inflammation. The section was complete about the twelfth day, when the fingers were found to be healed. The separation of the fingers was perfect and permanent.

Vebeau treated syndactylism by incising the uniting medium throughout its whole extent and applying three sutures at the commissure—one in the middle and one on each side.

Verneuil modified the practice by applying sutures along the whole lateral surfaces of each finger. Follin, Huguier, Morel-Lavallée, and Vidal de Cassis report successful cases treated in this way.

Fort gives a description of a variety of plastic operations devised by different surgeons for the cure of syndactylism.

The process of Zeller is as follows: A triangular flap of dorsal integument, with its base at the commissure and its apex at the articulation of the first and second phalanges, is cut and reversed on the dorsal surface of the hand. The web is then divided throughout its whole length, and the flap is brought down and attached by suture to the palmar integument. Morel-Lavallée modified this process by making a palmar flap as well as a dorsal one, truncating their apices, and uniting by suture.

The process of Dieffenbach consists in dividing the uniting medium, dissecting the skin from the subjacent parts on the dorsal and palmar surfaces, and then gliding the flaps together and uniting them by sutures on the side of each finger.

The process of Decés consists in forming the commissure from the web. The fingers being separated as widely as possible, the surgeon seizes the web longitudinally between the blades of a dissecting forceps, the points of the forceps corresponding with the normal position of the commissure. An assistant holds the forceps, while the surgeon cuts on each side from the free extremity of the web to the commissure, leaving the web attached at the commissure. The fingers are separately dressed, and heal by granulation and cicatrization, while the web shrinks and forms a commissure. Decés had complete success with this plan in a case of syndactylism from the cicatrix of a burn in a child of eight years. The commissure appeared entirely satisfactory thirty months after the operation.

A very ingenious operation for the cure of syndactylism was devised by the late Dr. J. Kearny Rodgers, of this city. I can not give the exact date of this operation, and I am not certain whether Dr. Rodgers published an account of it. But I have a record of a case in which I repeated the operation in 1846, and I have a strong impression that Dr. Rodgers had performed the operation many years before that time. The operation consists in making a longitudinal incision on the palmar surface of one finger and on the dorsal

surface of the other, and dissecting from the subjacent parts a dorsal and a palmar flap, the palmar flap covering the side of the finger from which the dorsal flap was taken, and the dorsal flap covering the side of the finger from which the palmar flap was taken. In this way the lateral surfaces of the fingers were covered with sound skin, and the wounds left to heal were transferred to the palmar surface of one finger and the dorsal surface of the other. In the case in which I performed the operation there were partial sloughing of the flaps, troublesome secondary hæmorrhage, and a considerable amount of inflammation. The healing process was retarded, and was not completed until about three months after the operation. The fingers were well separated from each other, but their motions were not very free when the child was taken from the city.

One of my colleagues in the New York Hospital undertook the performance of Dr. Rodgers's operation on an adult patient, but made the singular mistake of making the dorsal and palmar incisions on the same finger, leaving that finger only half covered with integument, while the adjacent one had a superabundant covering. The result was very satisfactory. The wound of the finger which was amply supplied with integument healed very promptly, that of the other finger healed very slowly, but there was no raw surface on the other finger to which it could adhere, and the syndactylism was completely cured.

M. Fort gives an accurate description of Dr. Rodgers's operation, illustrated by wood-cuts, but he makes no mention of Dr. Rodgers. He ascribes the operation to M. Didot, of Liège, in Belgium. Didot published an account of the operation in the "*Bulletin de l'Acad. de Bruxelles*," in 1850, tome ix, No. 5. Sédillot says that Didot reported successful cases in 1845.

There seems to be no reason to doubt that Dr. Rodgers was the originator of this operation, and that he performed it a number of years before Didot. It does not appear certain whether Didot had become acquainted with Dr. Rodgers's operation. If he had not, it is remarkable that he should have devised an operation agreeing with that of his predecessor in all its minute details.

Nélaton professes to have anticipated Didot in this operation.

In the "*Medical Press and Circular*" of April 25, 1866, Barwell describes an operation which he performed with success for the cure of syndactylism. He divided the uniting medium close to the side of one finger, so as to leave ample integument to cover the other finger; and he cut a flap from the side of the gluteal region to cover the denuded side of the first finger, binding the forearm and hand to the body until the flap had united with the finger.

The most valuable collection of facts in relation to ectrodactylism and syndactylism is to be found in a monograph entitled "*Des difformités congénitales et acquises des doigts, et des moyens d'y remédier*." Par le Dr. J. A. Fort, Paris, 1869.

COPPER AND VINEGAR PICKLES.—The report of a chemical analysis of a number of specimens of ordinary pickles, recently submitted to the Board of Health, shows that copper was present in from 9 to 2 parts in 100,000.

A CASE OF CONGENITAL WEB OF THE VOCAL BANDS.*

By THOMAS AMORY DE BLOIS, M. D.,
BOSTON.

THE following case of congenital web occurred in the dispensary practice of my colleague, Dr. J. W. Farlow, of Boston:

Louisa T., a young girl of twenty, came to the Boston Dispensary during the summer of 1883 for treatment for her throat. Her voice was exceedingly weak, hoarse, and puerile, and, although generally well developed, she stated that it had always been so; that in infancy her shrill, peculiar cry had been often remarked, but that no one was aware of the cause, nor had any laryngeal examination ever been made.

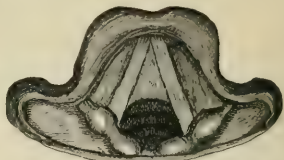


FIG. 1.—THE LARYNX BEFORE OPERATION, SHOWING THE CONGENITAL WEB.

Upon examination of the larynx, a very dependent epiglottis was seen, and it was only with the greatest difficulty that the patient was able to raise it sufficiently to allow the operator to see behind and under it. When this, however, was finally accomplished, it was seen that the anterior half of each vocal band was spanned across by a white and almost transparent web, perfectly symmetrical in all its aspects.

This membrane appeared to be elastic, and to expand and contract perfectly in unison with the motion of the vocal bands. The education of the patient was immediately commenced, for she was so intolerant that it was impossible to introduce any instrument into the larynx. This was continued during the month of August, by the end of which time she became much more tolerant.

About the 1st of September, however, Dr. Farlow was obliged from illness to give up his dispensary service, and he very kindly turned this most interesting case over to me. A lapse, however, of a fortnight had passed during which there had been no education, and, consequently, for the first two sittings I never even saw the larynx.

This condition, by constant work at my office, was somewhat remedied, and it was occasionally possible to introduce an instrument behind the epiglottis.

There being no cutting dilator nor other instrument of the kind procurable in Boston, by the advice of Dr. Knight I tried the plan of introducing a pair of Mackenzie's forceps, closed, into the larynx, with a view to opening it subsequently when the web had been passed, and thus tearing it.

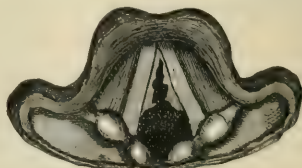


FIG. 2.—THE SAME ON NOVEMBER 9, 1883, SHOWING THE WEB IMMEDIATELY AFTER ITS RUPTURE.

* Read before the American Laryngological Association, May 12, 1884.

There were many, many failures. Once I felt sure that I had split it, but found that I had only scratched it, causing some little hæmorrhage. Even after Dr. Farlow returned to his work I occasionally saw the patient at my office, and on one of these occasions, November 9th, was so lucky as to get the forceps fairly down into the trachea, and, opening it fully and withdrawing it, found that I had split the web across, leaving a "jagged," dentated edge on either band.

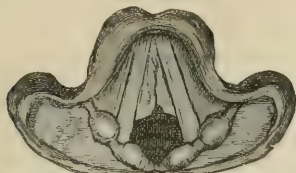


FIG. 3.—THE SAME ON NOVEMBER 10TH, SHOWING THE WEB WITH THE RUPTURED EDGES APPARENTLY JOINED TOGETHER.

The following day I saw the patient and found, to my dismay, that during the night the two halves of the ruptured web had apparently healed together. Certainly the voice, which immediately after the operation became low-pitched and hoarse, had resumed its former high key.

On November 11th I was able to break up the adhesions with a probe, so that the cords were almost normal in appearance, except that the edges still showed some remains of the web. This treatment of expansion was continued by Dr. Farlow occasionally.

About a month after this I saw the patient. Her larynx was almost normal, except that the vocal bands appeared to be fused together at the anterior commissure. The voice, although not very clear, was about what you would expect to find in the ordinary girl of her age. The singing voice, as tested by Dr. Farlow, had gained three notes above and four below what she was able to sing before the operation.

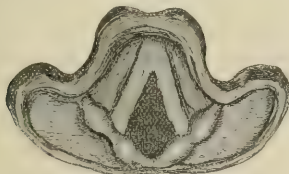


FIG. 4.—THE SAME ON NOVEMBER 13TH, SHOWING THE CONDITION OF THE LARYNX AFTER THE ADHESIONS WERE BROKEN UP WITH A PROBE.

The bibliography of the subject is meager, there being, I believe, but three preceding cases on record.

Zurbelle ("Berlin. klin. Wochenschr.," December, 1869, p. 544) reports the case of an eleven-year-old boy who, as an infant, had never cried, and had learned to talk late. There was a membrane between the false cords about two thirds of the length of the chink; below this there was a second membrane projecting from the ventricular sinus and resting on the true vocal cords. After some weeks' preparation, the upper membrane and one third of the lower were split with the unconcealed probe-pointed knife. Fixation of the larynx was impossible, as the boy was restless. Several days afterward the rest of the second membrane was split. Local hæmorrhage was considerable; reaction slight. The voice was very much improved. Some fragments of the second membrane were visible at the anterior commissure; the rest had completely retracted into the sinus. The voice was absolutely normal.

Elsberg ("Trans. of the Am. Med. Assoc.," 1870, p. 217).—Miss S. K., aged seventeen, had a thin, feeble voice, hoarse, high-pitched, and husky. No syphilis. The vocal bands through their whole extent were covered by a membrane which occluded the rima glottidis between them in such a way that there was but a small opening posteriorly when the vocal bands were stretched to their full extent. This opening was irregularly circular, measuring only three lines in diameter. It seemed firmly united to the upper surface of the vocal bands. When they were approximated, the membrane was folded down so as to disappear from view. This membrane was cut in two operations, by a concealed laryngeal knife, after Tobold. The membrane, being very tough, was pierced with difficulty. After the operation, the patient complained of too much air in the chest, and, by inhalations of tannin and persulphate of iron, the shreds of membrane gradually contracted. The voice became louder and more normal.

Dr. Scheff, of Vienna ("Allgemeine Wiener med. Zeitung," July 9, 1878).—The patient was a baker's boy, twenty-two years old, in whose larynx there was a web-like membrane occupying the anterior two thirds of the rima glottidis, leaving an oval opening. This web was under the free edge of the true cords, and began at the anterior commissure. There was no trouble with respiration, but the voice was hoarse.

An attempt was made to cut first with a blunt-pointed concealed knife, which was not successful. Then local anesthesia was used, and with a concealed knife a cut in the posterior edge of the membrane was made, followed by emphysema of the neck. On another occasion, with a concealed knife, another incision was made, and the edge touched with nitrate of silver. Then small pieces were removed with the forceps, etc. Although the web was entirely removed, the voice continued hoarse, owing to the treatment, and the patient disappeared before he regained his voice.

DISCUSSION.

Dr. HARTMAN questioned the advisability of the introduction of a pair of lateral forceps into the larynx, and its forcible expansion, and would prefer the covered or tube bistoury, or the galvanic cautery, for the division of webs.

Dr. ARON.—Pertinent to Dr. De Blois's case is one that I have seen in my practice. I found a web occupying the anterior portion of the glottis, the result of acute inflammation. The patient, a teacher, had had no laryngeal trouble until, after a severe attack of acute laryngitis, she lost her voice. She then lived in England. She married and removed to Central America. Her health always remained poor after the laryngitis. Last summer she came to New York for treatment, having been sent with a diagnosis of laryngeal phthisis. A laryngoscopic examination showed the web as described. There was also a vertical web in one eye, stretching from the palpebral to the ocular conjunctiva, the result of acute ophthalmia. Her voice was weak. In consequence of her feeble condition, she declined to allow me to resort to operative procedures, which, apparently, could easily have been performed.

Dr. KNIGHT.—I saw this case with Dr. De Blois, and, in reply to Dr. Hartman, I wish to justify myself for having recommended the treatment adopted. The web was very thin, even transparent, and I believed that anything introduced into the larynx would cause its rupture with the least effort and without the slightest danger to the larynx. I must say that, so far as my experience goes, it would teach me that the galvanic cautery should not be used in the larynx, and, if I mistake not, most gentlemen who have employed it there have abandoned it, because of the danger attending its use at so great a depth.

Dr. DE BLOIS.—I do not think the account of the difficulties

of the operation was fully appreciated by Dr. Hartman. When you have a patient who only about once in ten sittings is able to give any view of the vocal cords at all, and in whose case whatever instruments are introduced must be introduced at random, I can hardly think that the use of either the knife or the galvanic cautery would be justifiable. This web was quite thin, as Dr. Knight says, but I stretched it several times before it finally tore. It was tougher than I had anticipated. I do not know what danger Dr. Hartman would expect from the use of the forceps in a case of this kind. I do not see how it could do any more violence to the parts than cutting and the use of the dilator would. The woman menstruated normally, and there was no other explanation for the peculiarity of the voice than the abnormal condition in the larynx.

TWO CASES OF CHANCER OF THE TONSIL.

By CHARLES H. KNIGHT, M. D.

THE reading of a paper on "Chancer of the Tonsil" at a recent meeting of the Academy of Medicine has led me to review the case-books of the late Dr. Bumstead for histories of tonsillar chancre. The records cover a period of twenty-three years, and include a great variety of cases in both hospital and private practice. The results of my search seem to support the belief that chancre of the tonsil is of rare occurrence, since I have been able to find only two cases:

CASE I.—The first case was seen by myself only once or twice, and the history was taken by Dr. Bumstead. I presume this is the case referred to by Dr. R. W. Taylor, in his paper at the Academy, as having been described to him by Dr. Bumstead. The patient was a young man, about thirty years of age, who developed a chancre on the left tonsil sixteen days after "abnormal coitus." This was followed within three weeks by engorgement of glands beneath the jaw on the left side, a general eruption of roseola, and, a few weeks later, by enlargement of the post-cervical glands and mucous patches of the scrotum. At the time he was first seen the ulcer of the tonsil had existed nearly a month and was in process of repair; no induration of its base could be detected. There seemed to be no question as to its character.

CASE II.—Owing to Dr. Bumstead's ill-health, the second case was under my exclusive observation after the first visit. The circumstances preclude the possibility of willful deception on the part of the patient or of her physician, from whom the details were obtained, and its authenticity was fully accepted by Dr. Bumstead. The patient was a married lady, about forty years of age, who presented an ulcerating gumma of the right leg, just above the external malleolus. The history of the primary sore, contracted twelve years previous, and of the subsequent manifestations, runs as follows: "Sore throat" was complained of, for which she consulted her physician. In a few weeks an eruption of macules and papules appeared upon her chest and neck, accompanied by enlarged cervical glands and cachexia. The nature of the ulcer of the tonsil, which had not yet healed, was now for the first time suspected, and improvement in all the symptoms followed the adoption of specific remedies. Several relapses of the cutaneous lesion occurred, which promptly yielded to mercurial treatment. No new symptoms appeared for several years, when the gummy tumor of the leg developed. Mercury was ineffectual, and, owing to her extreme intolerance of potash, the patient was unable to take the

latter drug. In consequence, the tumor was very chronic; it finally subsided, but reappeared in the course of six months.

This case is of interest, not only from the location of the chancre, but also from the striking effects of even a single small dose of iodide of potash. A few minutes after taking five grains of the drug she complained of nausea, intense frontal headache, photophobia, increase of salivary secretion, and a peculiar feeling of constriction in the throat. Three grains of iodide of sodium, thoroughly disguised, were followed in about an hour by similar symptoms. The patient was not hysterical, and was very anxious to take potash, being convinced that it would be of benefit. It was finally given in the form of a two-grain sugar-coated pill, of the ingredients of which the patient was unaware. No unpleasant effect followed, and in the course of a month she was able to take a drachm a day without discomfort. Under its influence, the undermined edges of the ulceration having first been freely divided, rapid healing took place, and no recurrence has been noted up to the present time.

This lady is believed to have derived her chancre from her nephew, a boy of sixteen, who was in the habit of visiting her room and "making use of her tooth-powder." It is known that he was at that time suffering from buccal mucous patches and other syphilitic symptoms. No other relative or friend of the patient is known to have had syphilis, and her own character is irreproachable. The history of this case also shows the occurrence of syphilitic hypertrophy of the tonsils, which has been minutely described by Paul Hamonic in the "Annales de dermatologie et de syphiligraphie" for July and August, 1882, and observed by Morel-Lavallée in an interesting case of chancre of the tonsil reported by him in the same journal for January, 1883. In this instance the ulcer seems to have presented many of the features of a typical syphilitic chancre, but no reference is made to the occurrence of induration of its base. On the contrary, in a case reported by A. Hue, in "La France médicale" for May 31, 1883, marked induration of its base was recognized, while the chancre had no other characteristics commonly attributed to the primary sore. In every case, however, thus far reported, early induration of neighboring ganglia has been observed before the outbreak of a general adenopathy. This phenomenon would seem to be about the only reliable diagnostic sign, and, if this be absent, a suspicious ulcer of the tonsil may have no reason to be considered an "infecting chancre."

AN ENTOZOON IN THE TISSUES OF THE PIGEON.*

By PROFESSOR SAMUEL LOCKWOOD, PH. D.,
FREEHOLD, N. J.

IF the entozoa which afflict animal life were divided into two groups—those which infest the alimentary canal, and those which burrow into the living tissues—of two evils we might much more dread the burrowers. These fearful little carnivores have no respect for place; the muscular tissue may swarm with them, and the sufferer be eaten up with what seems to him a strange, burning inflammation or fever. Nay, these microscopic monsters often have a penchant for the veriest seats of agony, penetrating and making revelry

* Read in abstract at the April, 1884, meeting of the New Jersey State Microscopical Society.

in some vital organ—the heart, the eye, or the brain. Those occupying the alimentary canal may be reached by medical skill, but these burrowers into the life tissues defy all comers. It is to be feared that the burrowing entozoa are increasing. In 1869 I read some notes before the New York Lyceum of Natural History (New York Academy of Sciences) on an entozoon which I had discovered imbedded in the adipose tissue on the entrails of the common eel (*Anguilla vulgaris*). In November, 1871, I read to our society a paper involving a more complete study of the subject. The substance of that paper appeared in the "American Naturalist," August, 1872, under the title, "A New Entozoon from the Eel." There was given a diagnosis of the genus and species, with the new name, *Koleops anguilla* (Lockwood). At the meeting of this society in June, 1873, I read a letter to myself from Professor F. H. Welch, F. R. C. S., of the Royal Victoria Hospital, Netley, England. The writer was the author of an interesting article in the "Lancet," in February, 1873: "The Presence of an Encysted Echinorhynchus in Man." This genus belongs to the *Acanthocephala*, or spiny-headed worms—that is, those having recurved hooklets around the proboscis. This was a characteristic of *Koleops*, and the professor expressed his conviction in the letter that this group of worms would prove common in fishes. The subject of his paper in the "Lancet" was obtained from the dissection of a soldier returned from India. He said it was quite probable that many would be found in the bodies of soldiers.

Since that time, in its progress, helminthology has shown a number of these tissue-boring pests, the most notorious of the list being the pork pest, *Trichina spiralis*. It is so because of its great numbers; otherwise it is of small moment as compared, for instance, with the screw-worm, which is not a helminth.

I have in this small phial two specimens of entozoa which were taken from an adult pigeon, and sent me by Professor C. R. Barnes, of Purdue University (Department of Natural History), Indiana. They are very minute, and in every way microscopic. They were found "imbedded in the connective tissue investing the jugular vein, near the juncture of the branchial." The date of Professor Barnes's letter is March 15th; hence it is a coincidence to find in the "American Naturalist" of this month a note of the discovery of the same species. I had failed to determine it. From Professor Garman's note I have no doubt this is an early larval stage of *Pterolichus falciger* (Megnin), the *Hypoderas columba* (Murray). Garman says he has noticed this mite on several occasions in the tissues of the domestic pigeon. "As stated by Robertson, it occurs most abundantly in the connective tissue about the large veins near the heart; but a few may be found under the skin in the region of the arm-pit." It is about 1.5 mm. long. Garman says: "No mouth parts are visible; . . . it is safe to assume there are none." I have no comment to make on this, but must state a fact which caused me great surprise.

The pigeon from which these specimens were taken was a male bird that had been kept for a day in fifty-per-cent. alcohol. These larvæ were sent me in seventy-five-per-cent.

alcohol, and I should think, ere I looked at them in the microscope, that they had been in this fluid four or five days. I noticed a crater-like depression, the edge being slightly puckered, suggesting to me a sucking ring. While looking, to my astonishment, up rose from the bottom of this crater a petiolate body, with a knob on top; in the center of this knob, at its flattened face, was a distinct oral pore. It really seemed that this crater edge had a sucking power, and that the little club, with its oral pore, was the real mouth. But the amazing fact was the presence of vitality. The little organ retracted and projected itself with a slow but perfectly rhythmical movement, until, the alcohol evaporating, it ceased. I applied a drop of water, but the spasmodic life-force was spent. However, there was this gain left. When I first looked into the crater, this little organ was unseen. Now it had died, with itself partly projected, allowing me some time to examine it. On curative considerations, this vitality of parasites has a fearful significance.

But, though playing the rôle of entozoa, these little scourges are not helminths or true worms at all. The bot-worm and the screw-worm, so called, are the larval offspring of the diptera, or true flies. But our pigeon parasite is the larva of a burrowing mite, or hexapodous louse.

A CASE OF

ZOSTER FOLLOWING TRAUMATISM.

By HENRY LING TAYLOR, M. D.,

NEW YORK CITY.

ON March 5, 1884, there came to the Roosevelt Hospital, out-patient department, a man, aged twenty-four, single, and a driver by occupation, who gave the following history: While working, March 1st, a barrel weighing about twenty-five pounds fell upon his left shoulder from a height of ten feet or more. The injury was not sufficiently severe to cause him to quit work, but the next day his shoulder felt somewhat sore and stiff, and he noticed a small lump on the left side of his neck. During the evening of March 2d he had a sensation of prickling on the left side of the neck and of the back of the head, and along the left side of the body of the inferior maxilla. This had continued to the date of examination. On the morning of March 5th he had noticed several clusters of small blisters on the left side of the neck. Examination showed a very painful and tender area over the left half of the occipital bone and left side of the neck, with groups of vesicles scattered over this region from the median line behind to that in front. The lump spoken of seemed to be an enlarged gland. The diagnosis of zoster was confirmed by my colleagues in the dispensary. Ung. zinc. oxid. was ordered. When the patient called, March 7th, the eruption had made great progress. The skin was very red and fiery, there was considerable swelling, and the neck was held very stiff. The vesicles had increased in size and number, and new patches had appeared. The eruption was semi-confluent in parts. It then extended along the lower border of the jaw and behind and in front of the left ear, and downward to below the clavicle and to the same level behind. The patient suffered intensely from burning pain. Tongue coated. Ordered lead-and-opium wash and a laxative.

March 10th.—Pain relieved rather suddenly last night. Some of the vesicles are very large and filled with sero-pus.

14th.—Eruption is now dried down and scabbed, and there

is no pain. The scabs in the hair reach to the top of the head. There is little swelling, and the neck is moved quite freely.

21st.—The only remains of the eruption are the scabs, but there are some indurated points beneath the skin; three of these are incised, and a drop or two of thick pus is expressed. Ordered a poultice and ung. zinc. oxid.

31st.—Skin nearly normal. There are still a few very small subcutaneous nodules, yielding a drop of thick pus on incision.

There appears to have been a traumatic neuritis of the cervical plexus on the left side, causing a zoster of unusual severity in the skin areas to which the nervous filaments are distributed, and also circumscribed areas of cellulitis, which ended in places in the formation of small nodules containing pus.

Book Notices.

Die einfache chronische Exsudativ-Peritonitis. Von Dr. HERMANN VIERORDT, Privatdocent, etc. Tübingen: H. Laupp, 1884. Pp. 141. [Price, \$3.]

This monograph contains an interesting description of a class of cases that have received but very little attention in text-books. The author says that he undertook the work, not so much with the view of describing a new disease as with the purpose of systematizing the clinical and pathological knowledge already at hand concerning a well-known though often obscure affection. The morbid anatomy consists essentially in a simple exudative peritonitis, which, uncomplicated, manifests no special tendency to a fatal termination; indeed, the number of post-mortem examinations has been small. The author gives the clinical histories of twenty-eight cases, of which by far the larger portion occurred either in children or in young adults, and among females. He adopts Galvani's plan of description, and speaks of the period of prodromes, the period of exudation, and the period of resorption. The first he regards as difficult to make out; the predominant symptom of the second is ascites; and after the third there is left a feel of knotty conglomeration, which is due to agglutination of the coils of intestines into a more or less compact mass, the intestinal tube itself remaining pervious, and the patient living for years perhaps, as with the remnants of a pleurisy or a pericarditis.

The affection has been ascribed to a great number of causes, which in some cases are exceedingly obscure. Among those assigned, the more common are exposure to wet and cold; acute diseases, such as typhoid fever and measles; traumatism, pregnancy, diarrhoea, and gastric ulcer. Some cases are recorded as idiopathic. Of course, tuberculosis and syphilis have a place in the etiological group, but not a prominent position, and there is special room for the opinion that those cases in which peritonitis is due to the former belong to another class, and not to the one under consideration. No therapeutical measures seem to have acquired very great repute, notwithstanding the use of a large number of them, and also the fact that a high percentage of the patients escaped from immediate danger, while many recovered entirely.

The monograph is a welcome addition to medical literature.

A Manual of Pathology. By JOSEPH COATS, M. D., Pathologist to the Western Infirmary and the Sick Children's Hospital, Glasgow, etc. With 339 Illustrations. Philadelphia: Henry O. Lea's Son & Co., 1883. Pp. xxi-19 to 818.

In this manual it has been sought to give an advanced exposition of morbid anatomy, and to make the complicated phe-

nomena of disease intelligible in their statical and dynamical aspects by ample theoretical considerations. The leading sections on general and special pathology are prefaced by short descriptions of normal functions and structures, and to these descriptions references are repeatedly made in the exegetical portions of the text. To diseases of nervous structure, for example, we are introduced by a summary review of the fundamental anatomical and physiological relations of the nervous system, and the properties of normal substance as affected by morbid changes; and the special pathology of the spinal cord and the brain follows an examination of the manner in which the special functions of those organs are connected with special structural details. Here we find incorporated the very important conception of Ross and Hughlings Jackson that the accessory portions of the nervous system are more liable than the fundamental portions to undergo retrogressive changes.

In an admirable account of the pathology of diabetes, the data are employed to give support to the vaso-motor theory of Dr. Pavy. "All the facts," we are told, "may be held as indicating that diabetes depends on the liver being supplied with blood of an abnormal character at an accelerated rate of speed. The congestion of the liver depends on abnormal nervous arrangements, and these may be local, affecting the coeliac plexus, or possibly situated in the central nervous system." As elsewhere, the author here indorses views of, to say the least, a very speculative character, the immaturity of which quite disqualifies them for a place in a work destined to be extensively used as a text-book.

The matter is well arranged for reference, and, except for a somewhat monotonous repetition of phrases, the work is deserving of praise in point of style. The illustrations are abundant, many of them are original, and they are all perspicuous and well chosen. On the whole, the book is one of distinctive and in many respects unsurpassed merit.

The Pathology, Diagnosis, and Treatment of the Diseases of Women. By GRAYLY HEWITT, M. D. Lond., F.R.C.P., Professor of Midwifery and Diseases of Women, University College, and Obstetric Physician to the Hospital, etc. A New American from the Fourth Revised and Enlarged London Edition. With 236 Illustrations. Edited, with Notes and Additions, by HARRY MARION-SIMS, M.D., Attending Surgeon to St. Elizabeth's Hospital, New York, etc. New York: Bermingham & Co., 1883. Two Volumes. Pp. 20-33 to 469; 14-17 to 561. [Price, \$4.50.]

PROFESSOR HEWITT's work long ago became one of the standard text-books, and there is now no occasion to say more of it than that it is a book which no student of the subject ought to omit reading, although he should bear in mind that it reflects the views of an extremist in the matter of the mechanical element in uterine pathology. The American editor's notes to this edition are few, but they are of a character to add to the value of the volume, while they give a very fair picture of much that is peculiar to American gynecology. The publisher's work has been well done in the main, but the illustrations are not so clearly printed as we are accustomed to see in most of the medical books of the present time.

BOOKS AND PAMPHLETS RECEIVED.

A Glioma of the Right Eye spreading by Metastasis through Many Periorbital Centers. By Julian J. Chisolm, M. D., Baltimore. [Reprint from the "Archives of Ophthalmology."] Sur un glucoside du Boldo. Par M. P. Chapoteaut.

Annual Report of the Association for the Advancement of the Medical Education of Women, 1883.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. APPLETON & CO.

Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 14, 1884.

RODGERS'S OPERATION FOR WEBBED FINGERS.

ONE of the most gifted of American surgeons, the late Dr. J. Kearny Rodgers, is credited by Dr. Post, in the paper on syndactylism and ectrodactylism published in this issue of the journal, with having been the first to suggest the ingenious plastic operation for the relief of the first-named deformity which is commonly attributed to the Belgian surgeon Didot, being the procedure of making longitudinal palmar and dorsal incisions on alternate fingers, and covering each with a flap formed by reflecting the skin so as to separate the dorsal from the palmar layer of the web. Dr. Post considers it uncertain whether Dr. Rodgers ever published an account of the operation, and a somewhat superficial survey of the literature of the subject has failed to furnish us with any evidence that he did. It is quite likely, therefore, that Didot, whose description of the operation was published, unless we are mistaken, in 1849, would continue to be regarded as without question the originator of the procedure, especially as Sédillot states that he reported cases in 1845, were it not for Dr. Post's personal recollection to the effect that Dr. Rodgers had performed the operation many years prior to 1846, the date of a case in which Dr. Post has the record of his having done it himself. Even with this testimony, it may not be easy to satisfy the world at large that Didot was anticipated by the New York surgeon; but Dr. Post's statement is assuredly sufficient to warrant us in this country in assigning the credit to Dr. Rodgers.

It is quite conceivable, of course, that the two men hit upon the device in question independently of each other, for such coincidences have happened again and again, but, as Dr. Post remarks, it is not a little singular that the details should have tallied so exactly. Even if it is positively settled that no account of Rodgers's operation was published in this country prior to the reports of Didot's first cases, it does not absolutely prove that the latter surgeon arrived at the method as the result of independent thought, for Rodgers was a surgeon of great local fame, connected with what was at that time the only large hospital in New York, and his operations were likely to be made the subject of talk among persons who may afterward have been thrown with Didot; there is, therefore, no inherent improbability in the suggestion that a verbal account of his method of operating for the relief of webbed fingers may have reached Didot, who, in turn, may have really forgotten the source of the idea at the time he published his first cases. In the absence, however, of anything to prove that this was the case, it is but just to credit him with originality, if not with priority.

Rodgers died many years ago, and it may be questioned if

any one now living feels a personal interest in establishing a tribute of this sort to his memory, but the credit of American medicine is made up of what is accorded to individuals, and, from this point of view, it is exceedingly satisfactory that so precise and conscientious a man as Dr. Post feels justified in giving currency to the statements to which we have alluded.

THE CLOSE OF THE NEW YORK SOCIETY SEASON.

THE Medical Society of the County of New York having voted to omit its June meeting, and the Academy of Medicine having decided not to hold its second meeting for June, the local society season may practically be said to have come to a close, although the County Medical Association (which should not be confounded with the society first mentioned) will hold a meeting next week, and some of the private societies are still to meet once before the summer vacation. These omissions of meetings have not been decided upon because there remained nothing more to be done, and it is still more satisfactory to be able to add that they have not been resolved upon as a makeshift to allow acrimonious feelings to cool off, as was the case with the Academy of Medicine a year ago; but simply because it is getting to be felt more and more that evening meetings during warm weather do not, on the whole, further the work of the year. And, surely, enough has been accomplished during the season now closing to justify the indulgence in a four months' respite.

Reviewing the winter's work, we think it must be said that it has been exceptional in several respects. As a whole, it has been much more extensive and much more profitable than has generally been the case in New York, as we think our columns for the past six months will bear testimony. We have been able to give society papers in unwon number, and the space we have felt obliged to devote to the reports of discussions has been greater than in former years. In order to present these papers and discussions with the promptness that the circumstances called for, we have had to delay the publication of some contributed articles, and we take this occasion to assure their authors that we appreciate the forbearance shown by them in the matter.

The work of the season has been remarkable in this respect also, that the best of it has been done in the large public societies, and not, as has generally been the case, in the special private bodies. It will not be thought invidious, we feel sure, if we add that the Academy of Medicine has borne off the honors for the papers and discussion on puerperal fever which occupied two of its meetings were of so high an order of merit, and so enlisted the attention of the profession throughout the country, that in themselves they might have counted for a fair winter's work. Moreover, with barely an exception, the other papers read before the Academy have been of such a character as to do credit to its position before the profession. That this work is appreciated is shown by the accession of twenty-four new Fellows at the last meeting, and by the gifts of money that we have had the pleasure of recording. When we look back upon the disasters that threatened the Academy at the opening of

the season, we may say more of its distinguished president—for on him has practically rested the work—than that out of the nettle danger he has plucked the flower safety.

While thus pointedly specifying the Academy of Medicine, we are not unmindful of the creditable work that has been done by the other large societies; if their light has been somewhat dim, it has been only that it has been outshone by the greater luminary. The Medical Society of the County of New York has done well in comparison with former years, and, in extenuation of its failure to take the leading position from a scientific point of view, it should be borne in mind that it is peculiarly charged with what may be called the business of the profession. The new New York County Medical Association, which was not organized until the season was somewhat advanced, has also been the means of bringing out a number of papers of a high order.

When we say that the special societies have been outdone by those of a general scope, we do not imply that they have not kept pace with their own achievements in the past, for such is not the case; it is simply that the general societies have this year outdone themselves. We are unable to see that the causes have been exceptional, and it is to be hoped, therefore, that coming seasons will witness a continuance of their vigor.

MINOR PARAGRAPHS.

HUMOR AT A LONDON SOCIETY MEETING.

WE learn from the "Medical Times and Gazette," which, by the way, has become one of the sprightliest of our exchanges since its recent change of form, that at a meeting of the Clinical Society of London held lately a discussion took place on the subject of nephrotomy, in the course of which Mr. W. Anderson, who advocated the procedure of opening only the pelvis of the kidney, proposed for that particular form of operation the name of pyelo-lithotomy, whereupon Mr. Henry Morris "gently ridiculed" the proposition, saying that an operation involving only the calix might fitly be called "callico-lithotomy." At the same meeting a proposal to take the refreshments before the work of the meeting hereafter, instead of at its conclusion, appeared to meet with general approval. If this scheme is really put into operation, what sallies of humor may we not look for in the proceedings?

AN ACKNOWLEDGMENT.

IN our issue for April 12th there appeared an editorial article entitled "Elocution in Medical Lectures," and in the number for May 3d another bearing the title of "Stretching the Spinal Cord." An English contemporary, the "Midland Medical Miscellany and Provincial Medical Journal," has done us the compliment to adopt them as its own, reproducing the former in its issue for May 1st, and the latter, except the closing paragraph, in its issue for June 2d. Although our contents are often drawn upon by our contemporaries, candor compels us to confess that those of them for which we feel the greatest respect are generally careful to leave with us the burden of responsibility for the sentiments expressed. This has not invariably been the case, however, and we feel that we ought to have made acknowledgments to some of the journals that have copied our articles without the caution alluded to. In the future we shall try, therefore, to give proper expression to our gratitude, and

we think it no invidious distinction to begin with the "Miscellany," since it has thus honored us in two consecutive numbers.

PRIVATE PRACTICE BY ARMY SURGEONS.

THE physicians of New London, Conn., are somewhat exercised over the fact that a medical officer of the army, on duty at Fort Trumbull, has thought fit to do private practice in the town, and the matter has been freely commented on in the local newspapers. We can understand that there should be some heartburnings about the practice under certain circumstances, but that an army surgeon necessarily commits any injustice, or even any impropriety, by practicing among civilians, we can not concede. By so doing he fits himself more and more for the Government service, and he encroaches no more on the province of his professional brethren than if he were to settle in the town as a civil practitioner, save for what little advantage may come to him from the *clat* of the official position. At all events, the medical officers of the army ought to be better paid if they are to be expected to refrain from practice among civilians.

THE "SWILL MILK" OF BLISSVILLE.

It is satisfactory to learn that the sanitary authorities have been able to bring a keeper of swill-fed and diseased cows to trial, and to secure his punishment by a heavy fine; but for the repute of our craft it is not so satisfactory to learn that a medical witness testified that the milk was liable to produce "scrofula, diphtheria, and blood-poisoning." It is to be hoped that the newspaper accounts are overdrawn, and that no such loose testifying was indulged in on the occasion referred to.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 10, 1884:

DISEASES.	Week ending June 3.		Week ending June 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	7	1
Typhoid Fever	3	5	15	3
Scarlet Fever	57	9	72	7
Cerebro-spinal meningitis	4	4	3	3
Measles	153	28	148	25
Diphtheria	52	18	53	26

THE IMMIGRATION OF INSANE PAUPERS, a growing evil, has attracted the attention of the State Board of Charities, which has asked the co-operation of the Commissioners of Public Charities and Correction of the city in an attempt to secure legislation designed to mitigate the burden.

THE CONTAGIOUSNESS OF CONSUMPTION has gained substantial recognition in New York, if we may judge from the announcement that certain wards in Charity Hospital are to be set apart for the isolation of consumptives.

A CHINESE PHYSICIAN is reported to have been permitted by the Board of Health to register in this city, to practice among his countrymen.

THE COWS OF NEW YORK, it is stated, are to be subjected to a systematic inspection under the direction of the Board of Health, with the double purpose of aiding the Government officials in checking contagious pleuro-pneumonia and of guarding against the spread of tuberculosis by the milk of diseased cows.

A REMOVAL.—Dr. Edward W. Jenks, who for several years past has held the chair of gynecology in the Chicago Medical College, announces that reasons of a domestic nature induce him to return to Detroit, where he will re-establish his private hospital so soon as the necessary arrangements can be completed.

THE "FAITH-CURE" AND THE CHURCH.—An Episcopal clergyman sojourning in New York having declined to employ a surgeon for the relief of his daughter, who had sustained a fracture of the arm, relying implicitly, as he said, on a professor of the "faith-cure," the assistant bishop of the diocese has administered a kindly but effective rebuke, which, in conjunction with legal proceedings brought by the Society for the Prevention of Cruelty to Children, has resulted in regular medical attendance being afforded the child.

THE PROGRESS OF CREMATION is attested by a project for building a crematory at Bordentown, N. J., the idea being that it will be within easy reach of both New York and Philadelphia.

AN INOPORTUNE DISLOCATION OF THE JAW is one of the topics dealt with by a *feuilletoniste* writing in a recent issue of the "Union médicale." It seems that during the performance of a wedding ceremony the bride sneezed so violently as to dislocate her jaw at the critical moment when she should have pronounced the solemn "oui." As she was unable to articulate the word, it was found necessary for the whole party to repair to a surgeon before the ceremony could be completed.

AN UNUSUAL INJURY OF THE CEREBELLUM, as we learn from the "Medical Times and Gazette," was illustrated by a specimen shown at a recent meeting of the Pathological Society of London, by Mr. Morgan. The specimen consisted of the cerebellum and the atlo-occipital joint of a child that had come to its death by falling down-stairs at a moment when it had a knitting-needle in its mouth. The needle was driven through the palate and the atlo-occipital joint into the cerebellum, and, although it was withdrawn at once, the child died in about twenty-four hours.

AN HONOR TO AN ENGLISH PHYSICIAN.—The "British Medical Journal" states that the Queen of Great Britain has conferred the dignity of Knight Commander of the Bath on Dr. Henry Wentworth Acland, for many years the president of the Medical Council.

AMERICAN PORK now seems likely to be admitted into France after proper examination, a committee of the French Legislature having submitted a report containing a recommendation to that effect.

THE UNIVERSITY OF BERLIN.—According to the "Medical Times and Gazette," Dr. Hans Virchow, a son of Professor Virchow, heretofore a *Privat-Dozent* at Würzburg, has been called to Berlin, to take charge of the histological course, under Waldeyer, the new professor of anatomy.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, OF LONDON, as we learn from the "Lancet," has added Dr. Orichton Browne to its staff of lecturers, his chair being that of mental diseases.

THE NATIONAL ACADEMY OF SCIENCES.—A bill authorizing the Academy to receive bequests and gifts, to be held in trust and used for the promotion of science, has passed both houses of Congress.

THE BRITISH MEDICAL ASSOCIATION.—From an announcement in the "British Medical Journal" we learn that at the fifty-second annual meeting, to be held at Belfast, July 29th, 30th, and 31st, and August 1st, the following addresses will be delivered: Medicine, Dr. William M. Ord, of London; physiology,

Professor Peter Redfern, of Belfast; obstetrics, Dr. George H. Kidd, of Dublin.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 1, 1884, to June 7, 1884:*

MOORE, JOHN, Lieutenant-Colonel and Assistant Medical Purveyor. Ordered to perform, in addition to his present duties, those of medical storekeeper, San Francisco, Cal.

JOHNSON, HENRY, Captain and Medical Storekeeper. Relieved from duty at the medical purveying depot at San Francisco, Cal., and ordered to report for duty at the medical purveying depot, New York city, relieving Captain Andrew V. Cherbonnier, medical storekeeper.

Captain Cherbonnier, on being relieved by Captain Johnson, will proceed to St. Louis, Mo., and report in person to Captain George T. Beall, medical storekeeper and acting assistant medical purveyor, for duty at the purveying depot at St. Louis, relieving Captain Beall of his duties as medical storekeeper. Par. 9, S. O. 128, A. G. O., June 3, 1884.

FRYE, BLENCOWE, E., Major and Surgeon. Granted leave of absence for one year, from July 1, 1884. Par. 7, S. O. 128, A. G. O., June 3, 1884.

HALL, JOHN D., Captain and Assistant Surgeon. Granted leave of absence for three months, to take effect on his arrival at St. Paul, Minn. Par. 8, S. O. 128, A. G. O., June 3, 1884.

HEGER, ANTHONY, Major and Surgeon. Assigned to duty at Fort McHenry, Maryland, as post surgeon. Par. 1, S. O. 108, Headquarters Department of the East, June 2, 1884.

HUNTINGTON, DAVID L., Major and Surgeon. During the absence of the Surgeon-General, directed to take charge of the office of the Surgeon-General and perform his duties. Par. 6, S. O. 129, A. G. O., June 4, 1884.

BENTLEY, EDWIN, Major and Surgeon. Assigned to duty at Fort Clark, Texas, as post surgeon. Par. 1, S. O. 68, Headquarters Department of Texas, May 31, 1884.

KOERPER, EGON A., Captain and Assistant Surgeon. Assigned to duty at Fort Keogh, Montana Territory. Par. 1, S. O. 58, Headquarters Department of Dakota, May 27, 1884.

BARNETT, RICHARDS, Captain and Assistant Surgeon. Now on sick leave of absence, is relieved from duty at Columbus Barracks, Ohio, and ordered to report to commanding general, Department of the East, for assignment to duty. Par. 2, S. O. 129, A. G. O., June 4, 1884.

CUNNINGHAM, T. A., Captain and Assistant Surgeon. Ordered to relieve Assistant Surgeon C. B. Byrne, U. S. A., from duty at Fort Lewis, Colorado. Assistant Surgeon Byrne, when so relieved, ordered to proceed to Fort Gibson, Indian Territory, and report to the post commander for duty. Par. 2, S. O. 112, Headquarters Department of the Missouri, June 4, 1884.

BANISTER, J. M., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month and seven days, to commence June 13th. S. O. 22, Headquarters Division of the Atlantic, June 5, 1884.

MC CREERY, GEORGE, First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, with permission to apply to the Adjutant-General of the army for two months' extension. Par. 3, S. O. 56, Headquarters Division of the Missouri, June 5, 1884.

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Canby, Washington Territory, and ordered to return to his proper station (Fort Walla Walla, Washington Territory). Par. 2, S. O. 70, Headquarters Department of Colorado, May 26, 1884.

OWEN, WILLIAM O., JR., First Lieutenant and Assistant Sur-

geon. Having reported at these headquarters, in compliance with Par. 5, Department Special Orders No. 62, current series, will return to and take station at Fort Stevens, Oregon.

In addition to his duties at Fort Stevens, Assistant Surgeon Owen will perform those of medical officer at Fort Canby, Washington Territory. Par. 1, S. O. 70, Headquarters Department of Colorado, May 26, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending June 7, 1884:*

MURRAY, J. M., Passed Assistant Surgeon. Detached from U. S. S. Passaic and ordered to U. S. S. Constellation.

MARTIN, W., Passed Assistant Surgeon. Detached from U. S. S. Constellation and ordered to U. S. S. Passaic.

CRAIG, T. C., Passed Assistant Surgeon. Detached from U. S. S. Minnesota and ordered to U. S. S. Vandalia.

DEANE, C. W., Passed Assistant Surgeon. Detached from U. S. S. Vandalia and ordered to U. S. S. Minnesota.

HALL, J. H., Passed Assistant Surgeon. Detached from U. S. S. Minnesota and ordered to Naval Hospital, Brooklyn.

WALES, P. S., Medical Director. To continue present duty until August 1, 1884.

WELLS, H. M., Surgeon. To temporary duty at Naval Laboratory.

MARSTELLER, E. H., Passed Assistant Surgeon. Detached from U. S. S. Vermont and ordered to U. S. S. Monongahela.

SCOTT, H. B., Assistant Surgeon. Commission to date from July 11, 1883.

MEANS, V. C. B., Assistant Surgeon. Commission to date from June 3, 1884.

HESLER, F. A., Assistant Surgeon. Commission to date from June 3, 1884.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Monday, June 16th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians.

Tuesday, June 17th: New York Academy of Medicine (Section in Medicine); Medical Societies of the Counties of Kings and Westchester (annual), N. Y.; Ogdensburgh, N. Y., Medical Association.

Wednesday, June 18th: American Neurological Association (New York—first day); Medical Societies of the Counties of Alleghany (annual) and Tompkins (annual), N. Y.; New Jersey Academy of Medicine.

Thursday, June 19th: American Neurological Association (second day); Roman Medical Society.

Friday, June 20th: American Neurological Association (third day).

Letters to the Editor.

AN UNUSUAL EFFECT OF ERGOT.

38 NORTH DIAMOND STREET, ALLEGHANY, PA., May 27, 1884.

To the Editor of the *New York Medical Journal*:

SIR: The following singular action of ergot may be worth recording: A very healthy woman, aged twenty-five years, had a miscarriage April 7th. The after-hæmorrhage still continuing, on Tuesday, May 20th, I ordered Squibb's fluid extract of ergot, twenty drops three times a day. No effect having been observed, on Saturday, 24th inst., I directed a *teaspoonful* thrice daily. The first spoonful was taken on Saturday evening, and repeated on Sunday morning, noon, and evening. On Sunday morning the patient's forearms and hands, legs and feet, became very red and swollen. She was nervous, restless; her lower

limbs felt sore, tender, very heavy, "as though they weighed a hundred pounds." She arose with difficulty from a chair, and could walk with ease only after the exertion of half an hour. Fleeting pains passed through her shoulders. Whenever she closed her eyes she thought "she saw lightning." There was the sensation of pricking in upper and lower extremities. She was drowsy, and slept nearly all day. She was exceedingly cold. Clothed in her summer wear at first, she resorted on Sunday to winter wear, and slept under winter bed-clothing at night. On Monday morning, the unusual condition having passed away entirely, she took another teaspoonful of ergot, and in less than one hour Sunday's features had all returned. She became again cold, the extremities red and œdematous. She was again very sleepy; indeed, while cutting bread for dinner she fell asleep with the bread-knife in her hand, and was sleeping soundly when her husband came into dinner. I saw her in the afternoon; the drowsiness had disappeared, and all subjective and objective phenomena had passed away. She was like herself again. The metrorrhagia was lessened.

Yours truly,

RICHARD B. FAULKNER, M. D.

RECTAL ETHERIZATION.

NEW YORK, May 23, 1884.

To the Editor of the *New York Medical Journal*:

SIR: In your last issue of this journal you speak of "rectal etherization" as a "therapeutic novelty lately proposed by M. Mollière, of Lyons." Any one reading your editorial would be led to suppose that M. M. was the originator of the so-called novelty. It is therefore that I beg leave to call your attention to the following two facts: 1. This *modus operandi anæsthetica* was devised by Pirogoff. 2. That it was done so shortly after the discovery of the anæsthetic virtue of ether. Ether, as we know, was first used in 1846 by Morton, and it was but one year later that Pirogoff brought forth his method (Pirogoff's "Kriegs-chirurgie," edition 1864, p. 1061). The practical application of this plan was rendered comparatively simple through the introduction of an apparatus constructed by von Bruns not long after (von Bruns's "Chirurgische Heilmittellehre," edition 1873, vol. i, p. 311). "Credit to him to whom credit is due."

Respectfully yours,

S. S.

* * Notwithstanding our correspondent's statements, we still think that rectal etherization is a therapeutic novelty—on the principle that cremation, for instance, although practiced by the ancients, is generally looked upon as a novelty at the present time. As to credit, it seems to us tolerably clear that no New York surgeon will grudge anybody whatever credit may attach to the introduction of rectal etherization.

Proceedings of Societies.

THE MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Third Annual Meeting, held in Boston, June 10 and 11, 1884.

The President, Dr. ALFRED HOSMER, of Watertown, in the chair.

Tuesday's Proceedings.

THE morning was spent in visits, by invitation, to the Massachusetts General Hospital, the Boston City Hospital, the Lying-in Hospital, the Children's Hospital, and the Boston Dispensary.

METHODS OF INSTRUCTION AND RESEARCH IN PHYSIOLOGY, WITH DEMONSTRATIONS.—At noon the Society assembled at the Harvard Medical School, and Dr. H. P. BOWDITCH, of Boston, gave a general description of the methods of physiological instruction followed in the school, explaining the arrangement of the rooms set apart for that purpose and the appliances for demonstrations. The laboratories were shown, where experiments were in progress under the direction of Dr. Bowditch's assistants. Among many interesting demonstrations, the effect of electrical stimulation of the vaso-motor nerves was shown on an etherized and curarized cat; the same stimulation was shown upon the carotid circulation of a dog; the action of the semi-lunar valves was demonstrated on an ox's heart; ciliary action was beautifully shown in the mucous membrane of the frog; and the effect of temperature on the circulation was illustrated on the same animal.

MODERN METHODS IN ANATOMY, WITH DEMONSTRATIONS.—Dr. THOMAS DWIGHT spoke of the importance of the study of anatomy, and refuted the notion that it was a fixed science in which no further progress was to be made, alluding to recent advances in the topographical anatomy of the viscera, which he illustrated by sections from frozen bodies. He then referred to the statement, made long ago by Dr. Jeffries Wyman, that the bones were constructed after the manner of braces—an opinion that had been elaborated and in part verified by recent research. He next showed a series of fusible-metal preparations, demonstrating the minute ramifications of the vessels in the different organs. After these demonstrations, the members were shown through the rooms of the anatomical department.

THE PLASTER POSTERIOR SPLINT IN THE TREATMENT OF FRACTURES OF THE LEG, WITH ITS PRACTICAL APPLICATION.—The afternoon session, at Huntington Hall, in the Institute of Technology, was opened with a paper on this subject, by Dr. GEORGE W. GAY, of Boston, who gave a demonstration of the measures alluded to in the paper. The desirable features in a leg splint he thought were best embodied in the plaster posterior splint, which had for many years been in constant use in the Boston City Hospital. It was made of sheet wadding, coarse muslin, or crinoline, and plaster of Paris, and was applied as follows: The leg was washed and dried, and enveloped in the wadding, which had been torn into strips about four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and the tendo Achillis from pressure. A single layer of the gauze, large enough to extend from the toes to above the knee, was to be placed beneath the limb, closely wrapped about it, and cut so as to surround it completely, with the exception of a space about an inch wide on the anterior aspect. This piece served as a pattern by which the other layers, six or eight in all, were to be made. The muslin was to be slashed on each side opposite the point of the heel, to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes might be required to make the dressing fit snugly and smoothly, and to prevent wrinkles. Fresh plaster of Paris, mixed with warm water to the consistency of cream, was now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, molded closely and carefully to the inequalities, and firmly secured with a common bandage. The fragments were to be held in their proper place until the splint had become sufficiently firm to prevent displacement, which, with good plaster, would not be over fifteen or twenty minutes. In some cases this might be accomplished by means of sand-bags or pillows. In a few hours the outer bandage could be removed and the wadding cut open with scissors. The appliance was then complete, and could be worn with comfort for several weeks.

Particular attention was called to a few points in adjusting

this plaster case. The greatest pains should be taken to hold the fragments in their proper position until the plaster had set; otherwise they might get displaced, when a new bandage would be required, or a deformity would be the result. The foot should be placed at nearly a right angle to the leg, especially if the fracture was at or near the ankle joint. Little padding was required except about the heel and malleoli. Care should be taken that no wrinkles or folds were allowed to press upon the limb. The splint should reach to the metatarso-phalangeal articulation below, and, as a rule, should extend above the knee, particularly in children, to prevent twisting of the fragments in their long axis, or, in other words, to hold the foot in its natural relation to the knee. It should embrace about three-fourths of the circumference of the limb, in order to give the desired support, and retain itself in position. Although especially adapted for simple fracture of the tibia, or of the tibia and fibula, unattended with injury to the soft parts, the splint might also be used for compound fractures, if the soft tissues were not too extensively injured, and if the wounds were so situated that they could be exposed through holes in the splint. Strips of hoop-iron were used in these cases to strengthen the splint.

Contrary to the teaching of some authorities, the reader believed in the frequent examination of broken limbs until the fragments were so closely joined that they could not be displaced easily. Broken ribs and clavicles, though necessarily subjected to constant motion, almost always united well. So did fractures complicated with delirium tremens or excessive restlessness or insubordination, by which the limbs often sustained great violence.

The position of the fragments incased in the apparatus under consideration could frequently be determined by simply sliding the fingers along inside the splint without removing it. But, to examine the parts thoroughly, the case must be sprung open forcibly and the leg carefully lifted out.

The reader wished it to be distinctly understood that this dressing was not adapted to all varieties of fracture of the leg. For example, some cases of Pott's fracture accompanied by marked inversion of the foot, requiring strong pressure to restore it to its proper position and keep it there, could perhaps be better treated by other methods. So, likewise, might cases of oblique fracture of the tibia, with great over-riding of the fragments. Soft parts that had been severely contused should not be subjected to pressure until all danger of ulceration and sloughing had passed. The presence of blebs or blisters, however, did not necessarily preclude the use of this dressing, as they might often be treated through an opening in the plaster.

The reader thought enthusiasm got the better of judgment when patients were allowed to move about on crutches soon after an immovable dressing had been applied to a recent fracture. In cases of Pott's fracture he would not allow the patient to bear his full weight on the foot for months, as displacement and deformity were prone to return.

THE QUESTION OF THE ADMISSION OF WOMEN TO MEMBERSHIP.—At four o'clock an adjourned business meeting was held, in accordance with a vote passed at the last annual meeting, and the question came up as to which body could originate an amendment to the by-laws, the Society or the councilors of the Society. It was decided that either body could take such action, and the amendment to be acted upon at the present time was one that provided for the admission of women to membership. The amendment was finally passed, by a vote of 209 ayes to 123 nays. [The amendment does not become operative until it is confirmed by the councilors. The councilors at their meeting in the evening voted to concur with the Society on the question of the admission of women; so hereafter they will be admitted.]

THE NEW BUILDING OF THE HARVARD MEDICAL SCHOOL was thrown open to the members at five o'clock, and refreshments were served.

Wednesday's Proceedings.

A CASE OF CHYLOUS DEPOSIT IN THE ABDOMEN.—The reports of the secretary and the treasurer having been read and accepted, Dr. FRANKLIN NICKERSON, of Lowell, read an account of the case of a man, fifty-five years old, who was seized January 15, 1877, with violent pain, shooting from the lower part of the spine directly forward to the lower part of the abdomen. A tumor was found which was considered to be a distended bladder. Catheterization gave negative results, but, on aspiration, a quart of milky fluid was removed, giving relief and followed by disappearance of the tumor. An experience like this was repeated on March 21 and October 3, 1877, and on July 28, 1878. From the first aspiration till a year ago he experienced pain in the same situation as above described. During this period there occurred vomiting of chylous fluid at various intervals. Patient had an aversion to milk, and disliked fat. A year ago there was an attack of chylous vomiting, accompanied by loose discharges of a similar character from the bowels. An examination of the aspirated fluid was made. Its general appearance was that of milk. When it stood, a diffuse coagulum formed. It was odorless, and had a mawkish taste. Its specific gravity was 1.018, and its reaction alkaline. Ether extracted from it largely a clear, yellow fluid, from which, on the addition of nitric acid, an albuminous precipitate was thrown down. Under the microscope were seen large quantities of molecular granules, fat globules, occasional crystals of cholesterolin, and granular corpuscles of different sizes, in some of which nuclei were revealed on the addition of acetic acid. A summary of the literature of lacteal and lymphatic effusions was given, but no case exactly parallel throughout had been found.

A comparison of different chemical analyses, the proximity of the tumor to the chylous centers, the suddenness of its appearance, the locality of the pain, and the severe strain upon the abdomen required in the patient's occupation (that of a door-polisher), led to the conclusion that this was a case of discharge of chyle from ruptured lacteals. The absence of any marked prostration or loss of flesh excluded malignant or organic disease. The maintenance of strength for so long a time was attributed to the fact that the loss of chyle was probably not so great as it had been in other cases on record, with which great weakness and emaciation were invariably associated.

THE PITCH OF THE PERCUSSION SOUND.—Dr. LEONARD HUNTRESS, of Lowell, read a paper which showed careful and intelligent study upon the subject. He divided the elements of sound into pitch, quality, intensity, and duration, thus differing from most writers, Seitz being the only one who included duration. Duration differed from pitch in that the latter referred to the number of sound waves which struck the tympanum in a given time, and the former to the length of time the waves continued striking this membrane. The quality of a sound might be so significant as to be of more value in diagnosis than pitch, but *pitch* was of more importance than intensity. Two characteristics always aided in determining the pitch of a sound. A high sound was of shorter duration and of harder tone. A low sound was of longer duration and of softer tone. On two points he desired to dwell: The first was the difference in pitch between the percussion sound of the right infra-clavicular region and that of the left in the healthy thorax. Several years ago he was taught by Dr. Gutmann, of Berlin, who followed Traube in this regard, that the pitch was in most cases higher on the left side. All the instruction he had previously received had been the reverse. So he determined to ascertain what was gen-

erally taught and to make some experiments for himself. Dr. Flint, whose work he had previously studied, was very emphatic in teaching that in the majority of cases the pitch was higher in the right than in the left infra-clavicular region. The reader had made a careful study of the literature of percussion, with the following general result: Most writers made no mention of the matter, and, of the few who compared the two sides, the majority said that both were exactly alike in pitch, intensity, and quality in the infra-clavicular regions. Traube and Gutmann declared that the pitch was generally higher on the left side; Flint, Da Costa, and Seitz, that it was higher on the right.

What should we expect *a priori*? We have not much to base our opinion upon.

The pitch of the percussion sound of the lung depends on the tension of chest-wall and parenchyma, and the volume of the lung being directly as the tension and inversely as the volume.

There is no uniform difference of tension between the right and the left lung. At least, no difference is recognized by medical writers. There is a difference in volume, the right lung being the larger. So we should expect to find the right lung lower pitched. Should the reverse be true, we should conclude that the tension of the right lung was greater than that of the left.

The reader had examined two hundred subjects, all between the ages of twenty and forty, all being in good health, and having symmetrical thoraces.

The result was as follows:

No difference.	72
Pitch slightly higher on the right side.	71
Pitch slightly higher on the left side.	26
Pitch markedly higher on the right side.	23
Pitch markedly higher on the left side.	8
	200

The significance of this result is that, out of two hundred cases, in only seventy-two, or but little more than one third, is the pitch equal on both sides. In one hundred and four cases, a little more than one half, the pitch is higher on the right side than on the left in the infra-clavicular region. In thirty-four cases the reverse is true.

What was the practical bearing of this? A difference in pitch—which meant also a difference in intensity and quality—at the apex of either lung did not necessarily indicate disease. According to these investigations, there is a difference in nearly two thirds of the cases. This is not generally taught. Those who taught that there was any difference represented the pitch as so rarely raised on the left side that its elevation there was considered almost certain proof of disease. Although it was much more significant to find the left lung showing dullness at the apex than the right, yet this was by no means proof of disease.

Dr. Flint in his work on the respiratory organs says that "the pitch of the tympanitic sound is always higher than that of normal vesicular resonance." This discrepancy of statement he considered not because he found that these authorities disagree, but there are so many instances of loose and incorrect writing in medical works that he thought a protest now and then was needed.

The normal vesicular resonance is a good example of non-tympanitic resonance.

The resonance of pulmonary cavities under certain conditions and that of the stomach and intestines, when not too tensely inflated, are good examples of the tympanitic sound.

The tympanitic sound is a clearer, more ringing, and more musical sound, the sound waves striking upon the tympanum at regular periods. The non-tympanitic sound is less a musical sound, and here the waves strike the tympanum irregularly.

Percuss a freshly removed sheep's lung without inflation, and you obtain a clear, ringing, musical, tympanitic sound of low pitch. Inflate the lung to the degree of tension maintained in life, and the sound is less a musical tone and non-tympanitic. Here pitch is raised. Or take a pig's bladder just barely filled with air with no stretching of the membrane, and on percussion the sound is tympanitic. Now inflate forcibly until the walls are tense, and the sound is non-tympanitic.

According to Skoda, the tension of the membranes was the chief, if not the only, necessary condition of non-tympanicity, and *vice versa*.

The explanation was, that when the membrane is tense it is capable of vibrating, and its vibrations mingle with the vibrating air within, and, not being in harmony with them, destroys their regular periodicity and then the tympanicity.

These conditions which favor retraction of the lung tissue often gave rise to tympanitic sounds, just as the sheep's lung, when allowed to assume its natural, uninflated volume, gives tympanitic sound.

To illustrate one pathological condition under this head. In moderate pleuritic exudation the lung above the level of the fluid shrinks in volume, and, when this retraction reaches a certain point, the percussion sound is tympanitic. Here the pitch is lowered as the tension is diminished.

If all cases where the sound is tympanitic could be thus disposed of, Dr. Loomis would be justified in his broad statement. Without attempting to classify all the conditions which give rise to a tympanitic sound, he mentioned a class of cases very different from that just discussed, to wit, pulmonary cavities.

A cavity is either completely occluded by its walls, or it communicates with adjoining lung tissue. If the cavity is completely occluded, the wall must be elastic, and must not be stretched too tensely in order to produce tympanitic sound. Here the pitch of this tympanitic sound depends on the tension of the walls and the volume, being directly as to the tension and inversely as to the volume. If the cavity communicates by an opening with the adjoining tissue, sound may be tympanitic with either elastic or non-elastic walls. If the walls are non-elastic, pitch depends upon volume of cavity and on the diameter of the opening of communication, being inversely as the volume and directly as the diameter of the opening. If the walls are elastic, pitch depends on these two factors in just the same way, also on their tension being, of course, in direct ratio with the tension. There is also the general law that pitch of cavities depends *ceteris paribus* on the elasticity of the wall being in inverse proportion to such elasticity. If a cavity is sufficiently long and narrow—i. e., if the length of the long diameter sufficiently exceeds that of the short diameter, so as to give it the form of a tube—the pitch does not depend upon the volume, but upon the length of the air-vibrating column being in inverse ratio with the length of the column.

It is true that the tympanitic sound of the abdomen is higher pitched than normal vesicular resonance. This is not because it is tympanitic. It is rather in spite of that fact. We have seen that, in tympanicity from lung retraction, this pitch is lowered. We have also seen that, in the case of the tympanitic sound of pulmonary cavities, the pitch is sometimes high and sometimes low, according to the elasticity and the tension of the walls, the diameter of the opening of communication, the volume of the cavity, or the length of the air-vibrating column.

Perhaps Dr. Flint arrives at his conclusion by simply comparing the sounds of a tympanitic abdomen with the normal vesicular resonance; and Dr. Loomis may arrive at his by thinking, with Skoda, that the sole cause of tympanicity is relaxation and decrease of tension of surrounding wall.

(To be concluded.)

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 5, 1884.

The President, FORDYCE BARKER, M. D., LL. D., in the chair.

(Continued from page 641.)

THE LATE DR. WILLIAM H. HUBBARD.—Dr. F. A. BURRELL offered the following resolution, which was carried unanimously:

Resolved, That the sympathies of the Fellows of the Academy be expressed to our esteemed and well-tried associate, Dr. Samuel T. Hubbard, in view of the great sorrow he has experienced in the loss of his son, Dr. William Hustace Hubbard, who has been taken away on the very threshold of a promising career.

A PLEA FOR MORE HEROIC SURGICAL INTERFERENCE IN AFFECTIONS OF THE BRAIN.—Dr. R. W. AMIDON read a paper with this title, in which he sustained his plea by facts based upon a review of the statistics of injuries to the skull and brain. Walsham had collected over six hundred cases in which the trephine had been employed. Over four hundred of the patients died, but an analysis, according to Walsham, showed that only ten and six tenths per cent. died from the operation itself. Dr. Amidon thought that this percentage was greater than a strict analysis of the cases would justify. He had recently collected one hundred cases in which trephining or similar operations had been done since 1879, the cases being taken without special selection. His conclusions with regard to the cause of death in the cases in which it took place, whether due to the operation or not, were based upon a study of the pathological conditions, the prominent symptoms before and after the operation, the kind of operation, the dressing and subsequent treatment of the wound, and the final result. From these data it had been possible to arrive at pretty conclusive evidence as to the mortality of the operation *per se* as looked at in the light of modern surgery. Of the hundred patients, twenty-six died, of whom twenty-three had at the time of the operation symptoms endangering life, thus leaving only three cases in which the fatal issue could even be remotely traced to the operation.

It would seem that opening the dura mater had led to a fatal issue in a little over thirty-nine per cent., but, if it were remembered that this was accompanied in most cases by laceration of the brain, hæmorrhage, and the introduction of a foreign body in exploration, it would be found that the mere opening of this membrane was not responsible for death in thirty-nine per cent. of the cases. On the contrary, an analysis showed that it was the cause of death in only a little over seven per cent. The author then read the history of only one of a number of cases going to show the toleration and reparative power of the brain after extensive injury, and, among others bearing on this point, referred briefly to a case of gunshot wound of the brain under the care of Dr. Fluhrer, who boldly made a counter-opening, probed for and removed the ball, with complete recovery of the patient. He then briefly reviewed the data regarding cranial and cerebral topography, by which alone cerebral surgery could accomplish brilliant results. Neurologists were perfectly sure that there were certain regions of the brain which, when irritated, compressed, or destroyed, would give rise to perfectly unmistakable symptoms. Recapitulating, he said: "We have in trephining an operation proving fatal in only three per cent. of published cases; the operation of opening the dura mater fatal in only seven and six tenths per cent.; we have in the brain an organ tolerant of injury, and ready to take on reparative process; we possess knowledge, enabling us to tell when certain parts of the brain are diseased, and we have anatomical data enabling us to pierce the cranium to reach those parts."

With regard to the operation, he thought it could be better performed with the dental engine than with the trephine. The principal advantages of the engine were that with it one could cut away as much or as little bone as he pleased, and make the opening of any shape desired. It was specially useful in breaking down the edge of over-riding bone, to allow of the elevation of depressed fragments. The operation should always be done carefully, and we should try to procure only proximal coaptation of the flaps; we should provide for the freest possible drainage, and use cold antiseptic dressings without much compression. He said without much compression, because in one case the operation produced very serious results, which, however, were only temporary. Enjoin the greatest quiet, in a posture to facilitate drainage. Keep up the appetite, and a slightly loose condition of the bowels. In case of a rise of arterial tension and temperature, give *jaborandi* or *aconite* to the production of their physiological effect. Quinine and alcohol should be given only in tonic doses. An anodyne was often indicated, but opium or any of its preparations should never be given. To relieve pain, quiet delirium, or induce sleep, use hydrate of chloral in small and frequently repeated doses—ten to fifteen grains every fifteen or twenty minutes until its effects were produced. Quinine and alcohol in large, and opium in any, doses would aggravate intra-cranial inflammation when present, and he thought might excite it. These suggestions applied equally well, or with still greater force, to cases in which the dura mater or the brain was accidentally or intentionally invaded.

As to the indications for opening the skull, he mentioned injury of the external vault, provided there were marked cerebral symptoms; compound fracture of the skull, whether there was visible depression or not, or cerebral symptoms or not; and cases in which after the lapse of months, or years even, unmistakable cerebral symptoms following injury of the head. In addition to opening the skull, the dura mater should be opened in all cases in which exploration with the hypodermic needle disclosed products of purulent inflammation or a great deal of liquid blood, and in all cases in which serious superficial lesion of the brain was suspected and could not be otherwise proved. In addition to the bone and dura mater, the brain should be explored delicately with the probe in all penetrating wounds of its substance—punctured, lacerated, or gunshot. Its mass should be invaded, even when superficially intact, by a fine, blunt exploring needle when the presence of foreign bodies or of hidden collections of pus was suspected, and either extraction or evacuation should be made with the proper instrument. Finally, he would state theoretically that a neoplasm of the brain which had resisted medical treatment, continuing to grow and to threaten life, should be excised, for the reasons that it would usually be found to be single, there were seldom secondary deposits, it was usually surrounded by an inflammatory zone of demarcation, and always killed by pressure.

Dr. J. P. GARRISH thought the subject under consideration a very important one, and, to encourage the use of the trephine in properly selected cases, he briefly referred to his experience. The first case was that of an epileptic patient, whose attacks dated back five years to the receipt of an injury on the head. He had undergone medicinal treatment at the hands of various physicians. Recognizing a depression in the skull, Dr. Garrish trephined, removed a large piece of the skull, lifted a depressed portion of bone, and the man was completely and permanently cured from the moment of the operation. He had now done the operation in cases of epilepsy five times, and in every instance the patients never had another attack. At the battle of Antietam he found a soldier in the corner of a barn, covered up by straw, who had lain there three days without having been noticed. He had been wounded in the head and was com-

pletely unconscious. Dr. Garrish trephined him, and immediately the patient returned to consciousness, and recovered.

Dr. M. J. ROBERTS described an electrical trephine.

Dr. H. D. NOYES spoke of a case in which he opened the skull a number of years ago, that of a patient who had a fistulous tract in the frontal bone which occasionally discharged matter. The patient suffered from great stupor, and the antecedent history pointed to an abscess; there were also three or four fistulous openings near the right orbit. There had been convulsions, and here he would ask whether convulsions did not have a bearing upon the question of the presence of meningeal inflammation. He trephined above the right eye, punctured the dura mater, and let out about three drachms of pus; the patient regained sensibility, and finally recovered completely. Dr. Detmold had even a good while before this plunged a bistoury deep into a brain and relieved an abscess, so that it had been in the minds of surgeons in this country for a long time to perform such operations, but they had been waiting for more definite knowledge regarding cerebral topography. With regard to his case mentioned by the author, he would like to know whether the administration of alcoholics and quinine, with a view to sustaining the patient's energies and keeping down a dangerous rise of temperature, would militate against the chances of the patient's recovery. He thought the question one which really deserved consideration. In the case referred to, it was true that the patient was doing well at the time he was asked to interfere and correct the deformity, and it was probable he might have continued to do well for some time, but he believed the time would have come when it would be necessary to remove the piece of iron in order to preserve life, and, in his opinion, it was quite proper to undertake its removal so soon as the real nature of the wound had been ascertained, and not to wait until symptoms developed demanding its removal, as the chances of recovery then would probably be diminished.

Dr. L. PUTZEL had seen cases post mortem at Bellevue Hospital in which the condition of the intra-cranial contents was such that one might well suppose the patient would have stood another chance of life had trephining been performed, all other methods of treatment having failed and the patient having been left to die. With regard to the statistics given by Dr. Amidon, he was of the opinion that favorable and not unfavorable cases were likely to be put on record, and thus there would be a better showing for surgical interference than the facts warranted. He thought Dr. Noyes had struck the key-note to the whole question when he spoke of localization. Dr. Putzel thought we did know very much positively with regard to cerebral localization. There was no doubt that we had located the psychomotor centers, and we knew from cerebral topography where they were situated, but we might not be able to tell from the symptoms what part was affected. We might observe, for example, symptoms pointing to a particular surface lesion, but, on operating, or at the autopsy, we might find an internal abscess giving rise to those particular symptoms by cutting across some of the motor fibers before they reached the cortex. There were other cases in which the symptoms did not seem to coincide at all with our present notions of what they ought to be. He gave an illustrative case. We knew only positively with regard to the motor centers. He agreed with Dr. Noyes, that where there was a fistulous opening communicating with the outside it was perfectly proper to probe and try to find out the real condition of affairs. But it seemed to him that, before it became justifiable to make a cutting operation into the brain, our means of diagnosis should be further advanced. With regard to the question raised by Dr. Noyes, he did not think it was positively decided that it was improper to give alcohol and quinine in the condition mentioned. If there were any danger of the patient's

dying of heart failure, the use of alcohol was indicated. As to giving hydrate of chloral every ten or fifteen minutes, in some cases it might require an hour for the drug to produce its effect, and, given in this manner, too much might be administered before its effects became apparent.

Dr. AMIDON agreed with Dr. Noyes and Dr. Putzel that we did not know definitely the effects of quinine in these cases. But in a patient suffering from galloping consumption he gave from forty to fifty grains of quinine a day, and the girl suddenly had marked rise of temperature, chills, very severe frontal headache, ptosis on the left side, external strabismus of the same eye, and paralysis of the lower facial muscles of the left side, and was delirious for three days. The quinine was stopped, iodide of potassium was given in large doses, and she recovered, but afterward died of the lung affection. At the autopsy the only lesion in the brain was simply a little opacity of the pia mater at the base of the brain, and it had been his impression that there had been slight basilar meningitis, the result of the administration of quinine, from which she entirely recovered. He thought that Dr. Noyes was perfectly justified in the treatment adopted in his case. He thought Dr. Putzel had not understood his remarks about cerebral localization; otherwise he would have found them more nearly in accord with his own views than he had supposed.

THE PROPOSED NEW PARKS.—Dr. F. A. CASTLE quoted the arguments of the "New York Medical Journal" of May 31st as to the necessity for more park area in New York, and offered the following resolutions, which were unanimously adopted:

Resolved, That it is the sense of this meeting that the plan sanctioned by the Legislature should meet with the approval of his excellency, Governor Cleveland.

Resolved, That a copy of these resolutions, properly authenticated, be forwarded to Governor Cleveland.

The Academy adjourned, to meet the first Thursday in October.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 28, 1884.

The President, Dr. GEORGE F. SHREAY, in the chair.

SALPINGO-OÖPHORECTOMY.—Dr. M. PUTNAM JACOBI presented the ovaries and oviducts that had been removed by Dr. Elizabeth M. Cushier from an unmarried lady, now thirty-five years old, who had suffered severely with dysmenorrhœa since the age of twenty, although no particular attention had been paid to it until about a year before she consulted Dr. Jacobi, who had found the uterus sharply retroflexed, its cavity somewhat enlarged, and the endometrium exquisitely tender and hyperæmic. The right ovary was prolapsed. On the left side the ovary could not be felt, but there was a soft mass, unlike the exudate of cellulitis, and very sensitive. Dragging the cervix toward the right side always caused very sharp pain in the left side of the pelvis. At times the left ovary could be felt behind the cervix. Besides dysmenorrhœa, there was pain for about a week before each menstrual flow, increasing in intensity until the flow was established. Sometimes, too, there was very sharp pain for a few days after the flow, like a violent neuralgia; and in the intervals there was also constant pain, although less severe, in the left ilio-inguinal region, which frequently extended down the limb.

It was difficult to keep the uterus in position, although the fundus was not adherent, but because of shortening of the utero-vesical folds, which drew the cervix well up under the pubes. This was partly overcome by stretching, and for several weeks, the uterus being kept perfectly in place, the symptoms of perimetritic inflammation disappeared, and yet the symptoms largely

remained as before. For four months the patient was kept in bed, and cotton packing was introduced with a view of pushing up the prolapsed ovary and relieving pressure upon the vessels. After this treatment, together with massage, she was much improved, and for five or six months had no pain during menstruation. Then the pain began to return, and reached a degree demanding the operation. About once in six months while under observation she was seized with a colic of very great intensity, like that of nephritic or biliary colic, which continued for about two hours, and after this there escaped from the uterus a small mass of cheese-like matter. This was supposed to be inspissated mucus which had collected in the uterine end of the Fallopian tube. The operation for the removal of the ovaries and tubes was performed five days ago, under the use of the bichloride solution. The temperature since the operation had not risen above 101° F., and the patient was now considered out of danger. The operation was done eight days after the menstrual period, and pains had been taken to count the number of Graafian follicles. The extraordinary conclusion had lately been drawn, from the frequency with which an unusual number of mature follicles had been found in ovaries removed in Battey's operation, that there was no special relation as to time between menstruation and the ripening of a Graafian follicle. The cases being those of dysmenorrhœa and menorrhagia, we might suppose that there would be an abnormal development of the Graafian follicles. The specimens presented seemed to support this view. The left ovary was turned over, and on its dependent surface was a cyst with which evidently the finger had come in contact and caused acute pain during examinations. The other ovary was in a somewhat similar condition, but the cyst was not quite so large. Dr. Jacobi believed that physicians commonly had an indefinite idea as to the manner in which the ovaries became prolapsed; she thought the condition could only take place by the organ turning over on itself. The uterine extremity of the tubes contained what appeared to be inspissated mucus, a point of interest with relation to the periodic attacks of greatest pain and the discharge of cheese-like masses.

CHRONIC PERITONITIS.—Dr. F. FERGUSON presented specimens showing general chronic peritonitis, with extensive and very firm adhesions. He showed also a specimen illustrating injury of the vermiform appendix, and one of large tuberculous ulcers of the large intestine. A short time ago he had seen the statement that ulceration of the large intestine in connection with tuberculosis was very rare.

Dr. W. M. CARPENTER said, with regard to the specimen of chronic peritonitis, that he was reminded of a monograph by Viorondt entitled "Chronic Exudative Peritonitis," in which the author gave the history of several cases, in some of which the patients recovered and lived for several years, and others finally died of an affection directly or indirectly dependent upon the chronic exudative peritonitis. The appearances described were very much like those presented by the intestines shown by Dr. Ferguson—general agglutination of all the coils of intestine with each other, more or less thickening, but not necessarily any adhesions to the abdominal wall. Ascites was prominent at some period in the history. While reading the monograph he was reminded of two or three cases which he had seen, and in which there had occurred typhoid fever followed by symptoms of subacute peritonitis. There was marked ascites; after a time these symptoms subsided under treatment, and two of the patients ultimately recovered, and lived a number of years. The condition was not traceable to the ordinary causes of peritonitis, nor was there any history of tuberculosis. One of the patients lived for ten or twelve years after being under his care for this condition. Another, a man somewhat advanced in years, lived for four or five years, and ultimately died of cancer which mani-

fested itself upon the lip. He had not seen this group of cases well described before reading the monograph in question, and he believed the case related by Dr. Ferguson belonged to that class. Vierordt also spoke of ulceration of the intestines as one of the causes of chronic exudative peritonitis, a condition already mentioned by Dr. Ferguson as present in his specimen.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of June 3, 1884.

The President, Dr. F. W. BARTLETT, in the chair.

PARALDEHYDE.—Dr. JUDSON B. ANDREWS, superintendent of the Buffalo State Insane Asylum, read an interesting paper on this new sleep-producing remedy. After briefly reviewing the experience of its Italian introducers, and that of the Americans, Dana, Wilson, and Uhler, with the new hypnotic, he proceeded to give an account of his own trials. To paraldehyde had been ascribed numerous virtues by the foregoing writers. It had been stated that it possessed all the good qualities of chloral, without its dangers; that it did not produce the initial cerebral excitement so common to soporific agents; that no ill effects, such as nausea, depression, or headache, had followed its free administration; that it antagonized strychnine; and that it was antiseptic.

The reader had procured some paraldehyde in September last, at an expense of \$19 a pound. He first experimented upon himself, and found that two-drachm doses put him into a light slumber, lasting but a short time, from which he was easily aroused, and that it was followed by no ill effects. The sphygmograph was used in these experiments. The pulse generally fell and arterial tension was reduced. The peculiar penetrating taste and odor of the breath continued some hours. He then tried two-drachm doses on five other persons, three of whom experienced no hypnotic effect, one was slightly sleepy, and the other slumbered soundly. After this he made use of doses of three drachms. In a case of inebriety this dose raised the pulse in thirty minutes from 88 to 104, causing drowsiness, flushing of the face, and reduced arterial tension, and, after one hour, led to profound sleep until morning. A three-drachm dose having been given to an attendant, sleep followed in thirty minutes and lasted all night; the pulse fell from 88 to 76; and in the morning the man said he felt as if he had been drinking. In none of these cases was there any change in the number or character of the respirations. An effort was made to disguise the pungent taste of the drug with elixir of valerianate of ammonium and syrup of ginger, but without avail. Cold water was subsequently used, as in administering chloral. The reader then reported in detail the effects of paraldehyde in ten cases at the asylum: one of chronic melancholia, two of recent melancholia, four of chronic mania, two of paresis, and one of epilepsy with addiction to opium. The doses ranged from one to three drachms, and were alternated with other hypnotics, in order that their effects might not be misinterpreted. Paraldehyde was given in each case long enough to enable him to judge of its merits. In five of these the results were satisfactory, sleep being produced which might fairly be attributed to the paraldehyde. In five no benefit was experienced.

Doses of three drachms had an effect like that of a stimulant in narcotic doses. Smaller doses, if they produced any effect at all, gave rise to pleasant and natural sleep. It was less rapid in its action than chloral, requiring from thirty to forty-five minutes. There was no initiatory excitement. The respirations were not changed. There was no constant effect on the pulse. It occasionally produced nausea, and the taste was decidedly unpleasant and persistent. It had, in his opinion, no

quality which made it superior or even equal to other hypnotic remedies now in constant use. Its bad taste, the difficulty in disguising it, the large amount of water needed to dilute it, and the fact that it did not supply any demand not already met by other remedies, would, in his opinion, restrict, if not altogether prevent, its general use in either private or hospital practice. He exhibited sphygmographic tracings from many of the cases, made before and after administering paraldehyde. He stated that the price had now fallen to \$7 a pound.

Dr. COAKLEY asked if it would be beneficial in angina pectoris.

Dr. ANDREWS thought it would be of no service, but he had not tested it for its anodyne effect.

Dr. STRONG wished to know if paraldehyde would not be influential in the control of delirium tremens.

Dr. ANDREWS answered that he had had thus far no experience in its use in that disorder.

Dr. CROVYN spoke of the aldehydes as having been long well known to the profession, but seldom used in practice. He thought Dr. Andrews's paper would prevent many from making haphazard use of paraldehyde, and assist greatly in fixing the dose, a difficulty heretofore existing.

Dr. ROCHESTER had tried paraldehyde in one case with total failure to produce a hypnotic effect. In this case chloral gave perfect satisfaction. He thought it better to test the soporific properties of new remedies in asylums than in private practice, because in the former we might observe different results on account of cerebral disorders. For instance, hyoscyamine—a remedy described so glowingly by asylum authorities—had proved in his own practice a most dangerous hypnotic. An agent might be very appropriate for the brain of an insane person, but productive of vastly different results in an individual with a healthy cerebrum. He asked Dr. Andrews for his opinion with regard to Florida dogwood.

Dr. HARTWIG had read of one hospital where two hundred pounds of paraldehyde had been used. He mentioned the new hypnotic and anæsthetic, tannate of cannabine, just introduced in Germany. He had tried five grains without effect.

Dr. ANDREWS said he had hesitated to record his experience with paraldehyde because he had used so small an amount of it, but his cases had presented such uniform results that he felt he ought to report them. He had used one pound. He did not know of a safer remedy than chloral, of which he had used several hundred pounds without ever having observed bad effects. In the early days of its manufacture it was no doubt impure, but its quality had gradually become more perfect.

In answer to Dr. Rochester, he would say that he had experimented with Jamaica dogwood in the same manner as with paraldehyde. He had found dogwood not a good hypnotic, and of very little value. It had a slight soothing effect, and he would place it about on a par with valerian. It had not the extraordinary qualities ascribed to it. He had used three-drachm doses of a preparation labeled, "Dose, fifteen drops."

With regard to hyoscyamine, he was sorry to hear Dr. Rochester speak so ill of it. He had seen bad but not dangerous effects from it. He had witnessed patients, after a dose, fall as if in apoplexy, with congestion of the face and a rise in temperature, sometimes even with symptoms like coma, but such effects had passed off. He used it not largely, but nevertheless continually, at the asylum, always by the mouth, in doses of $\frac{1}{4}$ to $\frac{1}{2}$ of a grain dissolved in water, and never hypodermically. Merck's uncrystallized hyoscyamine was the best. The ordinary dose was $\frac{1}{4}$ of a grain. In English asylums as much as one grain was occasionally used. The pulse sometimes ran up to between 120 and 140 after the remedy was given.

DEATH OF DR. SANFORD B. HUNT.—Dr. ROCHESTER an-

nounced officially the death of Dr. Hunt, the physician and journalist. He came to Buffalo in 1853, and was associated with Dr. Austin Flint in the editorship of the "Buffalo Medical and Surgical Journal." He was for several years professor of anatomy in the University of Buffalo, a position he filled admirably. But as a medical journalist we had never had his superior. He was for several years the secretary of the Buffalo Medical and Surgical Association, and his reports were models of excellence; indeed, so facile was his pen that many gentlemen scarcely recognized their own remarks. He finally left the ranks of the profession to become a regular journalist of the daily press, yet not before he had shown marked ability and skill as a surgeon in the army during the war. After an absence of twenty years, Buffalo was still so dear to him that he desired to be buried here. Dr. Rochester moved that our regret at his loss to us and to the profession be placed upon the minutes of this meeting as a tribute to his memory and a mark of respect to his family. Carried.

Dr. WYCKOFF, Dr. GAY, and Dr. STRONG severally eulogized his intellect and talents, and recalled pleasant associations with him of a score of years ago.

ANEURYSM OF THE AORTA.—Dr. HAYD presented an aneurysm of the aorta removed at an autopsy this morning. It was interesting from the fact that the young man was a diver, and was accustomed to remain under water ten hours or more with a bell, causing a great strain upon his system. This led undoubtedly to a chronic endarteritis deformans, with dilatation and sacculation of the first part of the aortic arch. The sac contained several stratified deposits of fibrin. There were a few *végétations globuleuses* upon the aortic and mitral valves. The aortic valve was thickened.

GALL-STONES IN THE LIVER.—Dr. HARTWIG reported a case observed by him for some months, in which he had made a diagnosis of hepatic abscess, while other physicians had called it hepatitis. The patient, who had been suffering for two years, had little or no pain over the liver, but there was enlargement of the organ. He introduced a hypodermic needle into the liver in two places without finding pus. On post-mortem examination, there were found several thousand small abscesses in the liver, each containing a calculus. The gall-bladder also was completely filled with gall-stones. Some suppuration had taken place in one of the wounds made by the needle, and he believed puncture of the liver with a needle to be dangerous, especially on account of the great vessels at the hilum.

Dr. CRONYN observed that piercing an artery with a needle was not at all hazardous, for the tissue about the puncture contracted at once.

Dr. HARTWIG said he was loth to believe this unless it was proved by actual experiment upon animals.

THE PROPOSED DIVISION OF THE ASSOCIATION INTO SECTIONS.—Dr. COAKLEY, chairman of the committee appointed at the last meeting to report upon this subject, stated that a circular had been sent to each of the hundred members of the association, requesting the enrollment of his name in one of the four proposed sections, viz., medicine, surgery, obstetrics, and pharmacy. He had received only fifteen responses, and several of the writers were opposed to the division.

In a short discussion which followed the remarks of the chairman, Dr. TREMAINE, Dr. CRONYN, and Dr. HARTWIG expressed themselves against the change, believing the association was as yet too small, the specialists in it too few, and, further, that it was wisest to make ourselves specialists in general medicine.

A motion of Dr. ANDREWS that the committee be continued was carried and the meeting adjourned.

FREDERICK PETERSON, M. D., Secretary.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of May 21, 1884.

THE BACILLUS THEORY OF TUBERCULOSIS.—[After the reading of an interesting paper on "The Type of Typhoid Fever Prevalent Last Winter, with Pathological Specimens," by Dr. George W. Vogler; and a "Warning to Medical Practitioners in regard to the Use of Jequrity," by Dr. M. Landesberg—both of which we are obliged to omit on account of lack of space—the society proceeded to the discussion of Dr. Formad's paper on "Tuberculosis," as follows:]

Dr. SHAKESPEARE regretted his inability to be present to open the discussion in accordance with the request of the President, and thanked the society for this opportunity of expressing his views. He had been much interested by the opinions and by the review of the status of the tuberculosis question presented by the author. There were, however, very many points assumed as demonstrated, and positive statements advanced in the elaboration of Dr. Formad's paper, which Dr. Shakespeare believed to be without sufficient foundation. But he would not, at this time, enter into a general criticism. He preferred to await the detailed observations which the author promised should be forthcoming in support of the many statements and conclusions he had thought proper to announce in advance. He intended to limit his remarks to-night to some differences between himself and the author as to statements made by the latter concerning a recent visit to Koch's laboratory. Dr. Shakespeare also had been in Berlin last summer, and had then enjoyed the privilege for about a month of working under Koch and his assistants during six or seven hours daily.

1st. The author had declared, in terms far less equivocal than those printed, that Koch's policy was to hinder or prevent strangers who visited the *Gesundheitsamt* from retracing his now famous experiments upon tuberculosis, and stated that no one had ever been permitted to inquire into the infectiousness or parasitic nature of tuberculosis, save one man.

2d. The author had further announced that Koch had so far modified his views that he now admitted that neither the form, size, and aspect of the tubercle bacillus, nor its want of individual motion, nor its peculiar behavior toward staining fluids, distinguished it from many other bacilli.

Dr. Shakespeare regarded these statements as misrepresentations of Koch's animus, as well as of his present opinions. He felt impelled to thus publicly express himself, because perhaps every member present had known of his late visit to the *Kaiserlichen Gesundheitsamt*. To be silent under these circumstances would constitute a tacit assent to these declarations—a false position in which he was unwilling to be placed. Moreover, the grave importance of this whole question; the presumed desire of this learned society to be possessed of all the evidence bearing upon every phase of it; justice to the fairness, honesty, and consistency of the distinguished author of the bacillus theory of tuberculosis, whether it were true or false, forced him to express now his dissent from the foregoing declarations of his friend.

Previous to the announcement of the discovery of the "tubercle bacillus" he had been most favorably impressed by the exactness and completeness of Koch's labors in the final establishment of the parasitic nature of anthrax (French, *charbon*; German, *Milzbrand*; English, splenic fever), as also by the evident caution and reliability of that investigator. This had prepared him to begin the examination of the grounds of Koch's startling claims regarding the nature of tuberculosis with no small degree of respect for their author. At that time he had no definite views concerning the cause, infectiousness, or con-

tagiousness of tuberculosis. Certainly he did not commence this examination with a mind wholly preoccupied by a theory of his own which he thought to be in conflict with that of Koch.

He had not gone to Berlin for the purpose of discovering there the truth or falsity of the claims for the "tubercle bacillus." On the contrary, recognizing the growing importance of research among the various forms of bacteria as possible causes or modifiers of pathological processes, and having personally experienced much trouble in prosecuting such studies while following described methods, and, through his intimate relations with the University of Pennsylvania, having known of similar difficulties in the pathological laboratory of that school of medicine, he had at length determined to obtain, if possible, ocular demonstration of Koch's classic methods of isolation, culture, and study of minute organisms, and had become one of "the pilgrims" to that Mecca toward which Dr. Formad himself had directed his steps only a few weeks before.

Arrived in Berlin, he had been most cordially welcomed at the *Gesundheitsamt* by Dr. Koch and his corps of accomplished co-laborers, and every possible facility for furthering the object of his visit had been most willingly and courteously tendered during the whole of his stay, though doubtless at the cost of much inconvenience, for, besides work upon important investigations, active preparations for the departure of the cholera expedition to Egypt were then in progress. He could say that he had never spent a month with more pleasure or profit. While it had not been his desire to give especial attention to the "*Bacillus tuberculosis*" more than to the *Bacillus anthracis* and to other bacteria, yet, so far as his wish extended, and the limited time at his disposal served, in his practical work the "*Bacillus tuberculosis*" was not neglected.

He felt impelled to say, in the most emphatic and unmistakable language which he could use, that he himself was not only readily permitted to go as far as he wished in the investigation of the tubercle bacillus, but, furthermore, on no single occasion did he meet with any hindrance whatever, or perceive the slightest indication of a desire on the part of Koch to prevent the retracing of his experiments upon that subject. He had heard of no one having met such a difficulty there other than Dr. Formad. The only person who, previous to the presentation of the paper under discussion, had to his knowledge published an account of personal work done upon tuberculosis in Koch's laboratory was Watson Cheyne, of England, whose report amply testified to Koch's willingness to have his experiments examined. Dr. Formad, in his communication as printed, excepted this work of Watson Cheyne, perhaps wisely, for he several times quoted it for other purposes.

If Dr. Formad, during the three or four days of his attendance at Koch's laboratory, did not experience an enthusiastic reception, and, as he intimated, was not permitted to experiment upon the pathogenic qualities of the tubercle bacillus, he might far more reasonably have attributed this coldness to an irritation naturally produced by his published remarks in which Koch had been accused of unscientific work, and the insinuation been offered that the researches made at the Imperial Health Office had been unduly influenced by Kaiser Wilhelm, than have assumed from his reception that Koch habitually objected to have any one look into the genuineness and reliability of his work upon tuberculosis. Indeed, the simple fact of his admission at all, under the circumstances, could fairly have been regarded as evidence of Koch's willingness to open his laboratory even to an opponent whom he regarded as unfair. The *Gesundheitsamt* was a department of the German Government. Koch and his chief assistants were officers of the German army or navy. They were all intensely loyal to their Emperor.

They believed that Dr. Formad had purposely and unjustifiably stepped outside the proper sphere of a purely scientific communication to publish a reflection insulting to them and their Kaiser.

Before dismissing this indirect attack upon the reliability of Koch's published observations upon tuberculosis, Dr. Shakespeare took this opportunity to say that his personal observation of Koch, as well as a careful examination of his publications, had led him to the conviction that the whole medical fraternity did not possess a more painstaking, capable, cautious, thoroughly honest and reliable investigator of the causes of disease than the distinguished discoverer of the tubercle bacillus. He would speak in similar terms of those of the corps of official co-laborers at the *Gesundheitsamt* with whom he had come in contact sufficiently often to form an opinion.

The second statement above mentioned, namely, that Koch had now essentially modified his views concerning the characteristics of the tubercle bacillus, was next examined. Dr. Shakespeare could only say that Dr. Formad's extraordinary announcement was the first and the only information upon this point which he had received. Certainly he had heard nothing and seen nothing while at the *Gesundheitsamt* which could in any manner confirm such a statement. It is true that, while at Berlin, the author had related to him his interview with Koch, and had said that the latter had been far less dogmatic than he had expected, mentioning among other things a little friendly controversy concerning their opposite views in which Koch had seemed quite willing to admit the possibility that under favorable circumstances the tubercle bacillus might develop a flagellum at its extremity, and thus become endowed with individual motion (Dr. Formad had professed to have seen this motion), and had appeared quite willing to admit also the possibility that in the course of time it might be discovered that other bacteria would react toward staining fluids in a manner identical to the reaction of the tubercle bacillus. But an admission that certain things *might be possible* and a statement, based upon present knowledge and experience, that they did exist, or even were probable, were quite different matters. During Dr. Shakespeare's work upon the tubercle bacillus in Koch's laboratory, which was after the termination of the short visit of Dr. Formad, he was taught to differentiate the tubercle bacillus from all other bacilli by means of its characteristic reaction, now well known, toward certain staining agents, no less than by its peculiar size and shape, as seen under high magnifying powers (Zeiss's $\frac{1}{2}$ was generally used for this purpose). The statement that the author of the bacillus theory of tuberculosis had practically withdrawn his claim that there was something characteristic in the staining of the tubercle bacillus and in its morphology which distinguished it from other bacilli was the more astonishing and incredible because of the fact that, besides the existence of overwhelming testimony from all quarters of the globe in confirmation of this original claim, even Dr. Formad, however persistently in print he might assail this claim of peculiarity, was himself in the habit of differentiating this minute organism from all other known bacilli for purposes of diagnosis and of demonstration to his pupils by means of this self-same characteristic coloring and morphology.

Although it had not originally been his intention to discuss them this evening, Dr. Shakespeare briefly considered Dr. Formad's claims of discovery of the etiology of tuberculosis as set forth in his two papers. This author had been among the first to controvert Koch's theory of tuberculosis. Somewhat more than a year ago he made the first announcement of his views. In this communication the author advanced a theory of his own, which he believed to be opposed to that of Koch. He maintained that there was no necessity for the action of a specific agent in

the production of tuberculosis, and that therefore such a specific agent could have no rational existence. This position was, in the main, based upon his belief in the discovery of an anatomical peculiarity of those animals known to be especially prone to tuberculosis. This peculiarity he thought to consist essentially in a narrowing of the connective tissue lymph-spaces in certain animals—the scrofulous—and to be either hereditary or acquired. He maintained that the inflammatory process in such animals, whatever the exciting cause, was necessarily tuberculous.

On the occasion of the presentation of his first paper, Dr. Formad had undertaken to demonstrate this reputed anatomical peculiarity by the exhibition, under the microscope, of a number of anatomical preparations. At that time Dr. Shakespeare had regarded that demonstration as far from satisfactory or conclusive. In the first place, no single section showed lymph-spaces. In the second place, the method of preparation followed (that for ordinary histological examination—hardening in alcohol, cutting thin sections, staining these with carmine, mounting them for examination in Canada balsam) naturally was not capable of demonstrating lymph-spaces; not one silver or gold preparation was exhibited. Indeed, this common and satisfactory method of studying lymph-spaces had apparently not even been resorted to, for it was to be presumed that the most positive and demonstrative specimens in the possession of the author were those selected for exhibition. It was true that some of the sections under the microscope showed a cellular hyperplasia of the connective tissue—an appearance by no means new to the scientific world. And this was the sole evidence presented in support of a reputed discovery concerning an important anatomical peculiarity of the lymph-spaces of so-called scrofulous animals, upon which an exclusive theory of the ætiology of tuberculosis had been erected by the author and claimed to be demonstrated.

Recognizing the importance of that reputed discovery, this learned society had at once appointed a committee, consisting of its most experienced microscopists, to examine anatomical preparations which Dr. Formad should lay before it in proof of his announced discovery. Nearly eighteen months had since elapsed, and yet, during all that time, not one preparation had been submitted for examination by that committee.

In the paper at present under discussion, the author had complacently referred for proof of his so-called discovery to the evidence brought forward in his first paper, and supplemented this by *promising* with apparent self-satisfaction the future publication of corroborative observations by some independent investigators. Other criticisms might justly be urged, but, in view of the foregoing facts alone, Dr. Shakespeare believed himself sufficiently warranted in contending that the basis of Dr. Formad's opinion concerning the ætiology of tuberculosis had not been established, and also in suggesting that, instead of that opinion being referred to as a "theory" against the theory of Koch, it was scarcely yet entitled to be dignified by the name of *hypothesis*.

Furthermore, even admitting that this *hypothesis* concerning the anatomy of the lymph-spaces of the so-called scrofulous animals were, by the most indisputable evidence, demonstrated beyond the possibility of doubt, it still contained absolutely nothing which by itself either necessarily supported the conclusion of Dr. Formad regarding the non-specificity and non-infectiousness of tuberculosis, or antagonized the claim of Koch for the specific pathogenic qualities of his tubercle bacillus. When, if ever, this hypothesis became a fixed and determined fact, we should be placed only one step nearer a correct understanding of the ætiology of tuberculosis. The reason of that peculiar *predisposition* which certain animals were known to show toward tuberculosis might then have been satisfactorily ex-

plained. But what the *exciting cause* of that peculiar malady might be was an entirely different question. Whatever this might be, it could be readily understood that its power of destruction would naturally be favored by such an anatomical peculiarity. Such an "anatomical peculiarity," if it really existed at all, could be easily turned to the support of the bacillus theory. The claim of Koch was not that the tubercle bacillus was endowed with pathogenic qualities which under any and all circumstances were capable of exciting tuberculosis. He himself declared that for the calling forth of these powers a suitable soil and conditions favorable to growth and propagation were essential.

Finally, Dr. Shakespeare thought it proper to define his own position with regard to the ætiology of tuberculosis. He wished it to be distinctly understood that it was not from the standpoint of a follower of Koch, who accepted all of that investigator's conclusions, that he had offered the criticisms which he had made. In the consideration of such a grave question as the one then confronting him, he regarded it as obligatory to exact the same degree of rigid proof from friend as from foe, whether advanced on the side of popular opinion or against it. He therefore had not hesitated to express objections to the opinions and statements advanced by his friend.

Dr. Shakespeare admitted, as absolutely established, the power of the tubercle bacillus, under favorable conditions, to produce a genuine and virulent form of tuberculosis. He did not admit that it had been positively demonstrated that no other agent might also be capable of producing the disease; on the other hand, he denied that it had been satisfactorily proved that any other agent was capable of exciting tuberculosis. He believed the proof strong that, under certain favorable conditions, tuberculosis was an infectious disease, and that, at least frequently, the infecting agent was the tubercle bacillus. He saw no valid reason to deny that, under certain favorable conditions, tuberculosis might be conveyed from person to person, and in this sense be termed a contagious disease. Whether or not the tubercle bacillus were regarded as the only agent capable of exciting tuberculosis, its virulence was certainly incomparably greater than that of any other known agent. He therefore failed to appreciate the wisdom or the logic of those who, admitting the virulent qualities and propagative power of the tubercle bacillus, yet, because of a lingering suspicion or even of a decided belief that other agents could produce this terrible disease, would still decline to guard against possible infection or contagion. He regarded the tubercle bacillus, when present, as an infallible sign of the presence and activity of the tuberculous process. On the other hand, its absence, unless after repeated and long-continued searches by competent observers, did not positively warrant a negative conclusion. He therefore saw in the tubercle bacillus an important means of differential diagnosis in obscure cases. From its reported presence in some cases earlier than the physical signs could possibly determine a diagnosis of phthisis, he was inclined to think that it might become of inestimable value to the skillful practitioner to forewarn him of the beginning of that formidable malady which, if curable at all, must be combated from the very onset.

Dr. WOODBURY said that at least two distinct questions had been submitted for discussion: Was consumption contagious, and Was the *Bacillus tuberculosis* the efficient and only cause of consumption? One of these was not necessarily the complement of the other. Consumption might be contagious without being caused by a bacillus, and bacilli might cause consumption without rendering it contagious. The first question he thought should be decided by clinical experience, the second by clinical experience with the aid of morbid anatomy and mycology. Time would permit only a very brief presentation of the arguments in

favor of the views which he held, and he therefore would at once state his conviction, and he believed the experience of others would agree with his own, that pulmonary consumption as ordinarily met with was not a contagious disease. Since the definition of a disorder must be made from the clinical picture presented by the majority of cases, he would say that the typical case of consumption did not present any evidence of possessing a contagious character. The question as to the communicability of consumption under exceptional circumstances he regarded as a very different one from the former. Meningitis or nephritis might be communicated under peculiar conditions, but this would not warrant the clinical teacher in describing them as contagious, at least in any ordinary acceptance of the word. He had seen a number of cases of consumption which had occurred, in members of one family living under the same conditions, but had never met with a single case where the evidence of contagion was conclusive. Even cases of apparent communication from husband to wife, or *vice versa*, could be satisfactorily explained to his mind on other grounds than those of direct transfer of the disease by organic or organized particles. The susceptibility to phthisis might be native or acquired; it could not be transmitted by particulate infection.

With regard to the etiology of consumption, it would appear that there were several varieties of the disease which were indistinguishable by ordinary physical signs. In the first place, there were two classes of cases which stood apparently identical, differing in the microscopical characters of the sputum; one contained the alleged *Bacillus tuberculosis*, the other did not. This led us to a classification of bacillary and non-bacillary tuberculosis. In the latter class of cases, in addition to syphilitic phthisis, pulmonary actinomycosis, and zoogloëtic tuberculosis (a form of mycosis recently described by Malassez Vignol*), there were included cases of ordinary pulmonary phthisis, but *minus* the bacillus. In the first class, therefore, the question arose, "were the bacilli necessarily the cause of the morbid phenomena?" He thought that they were not essential, (1) because it had been shown that consumption might be due to other causes and pursue its course without their appearance, and (2) because they were apparently not a necessary element of tubercle. The bacilli had undoubtedly a certain diagnostic and prognostic value, but their appearance could be accounted for on the hypothesis of their being a mere concomitant of pulmonary consumption, even though it could be shown that they increased its fatality. He was surprised that, with such abundant opportunities for observation, clinical teachers had not been able to convince the world or themselves that consumption was contagious until they were shown something under a microscope. He was more than surprised that Professor Austin Flint had announced his adherence to the new doctrine, that pulmonary consumption was due to the *Bacillus tuberculosis*, and arose in no other way.

Dr. GEORGE HAMILTON said that, after a practice of more than half a century, he had seen no case of pulmonary consumption that could rationally be attributed to contagion. In two or three families, where several members were affected with this disease, attempts had been made to refer it to contagion, but without any sufficient proof. It was to be borne in mind that great repugnance sometimes existed in a family to admitting an hereditary tendency to this affection, scrofula, and certain other maladies.

Dr. DUNMIRE said that on the question, "Whether or not simple inflammation of serous membranes could lead to tuberculosis in the non-scrofulous," he would say that he had the

notes of a case in which the post-mortem proved death to have been caused by phthisis pulmonalis, in which the primary trouble seemed to be the fracture of two ribs on the right side. While both lungs were involved, the pleuritic adhesion of the right side was almost entire. An intimate acquaintance with the family, both before and since the death of this patient, had failed to show any sign of tubercular trouble, and, so far as he knew, none of this connection had died of the disease.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of May 23, 1884.

Dr. HENRY BEATES, Jr., in the chair.

A PUERPERAL CASE WITH NUMEROUS COMPLICATIONS was reported by Dr. MARY WILLETS. Mrs. H., aged thirty, a primipara, after a normal delivery did well for twelve days. Then, after pain in the back and limbs and chilly sensations, she had a rise of temperature and was attacked with nausea and vomiting. The temperature continued high for two weeks. There was nothing to account for the elevated temperature except a laceration of the cervix uteri and some tenderness around this point. On the twenty-fifth day after delivery the patient complained of pain in her left leg. For more than a week there were pain and swelling both above and below the knee; the pain was greatly increased on pressure and on attempts at extension of the limb, and was in the course of the femoral vein, but careful examination failed to reveal anything abnormal. On the forty-third day, the patient having recovered sufficiently to go down stairs, there was a sudden attack of well-developed mania, the patient being violent at first, but subsequently merely loquacious. This continued two days, and then gave place to somnolence, which lasted five days, after which convalescence began.

Dr. E. E. MONTGOMERY remarked that the case was unusual from the lateness at which the fever appeared. During his present term at the Philadelphia Hospital measures had been instituted to prevent the contact of septic matters with the parturient parts. A solution of corrosive sublimate, one to two thousand parts, was used to sponge the parts with after the expulsion of the placenta, and cloths saturated with the solution were kept in place by absorbent cotton, oiled silk, and a tailed bandage. There had been but three cases of septicæmia during the present quarter.

Dr. ALBERT H. SMITH said the local examination which the reader of the paper had very properly made solved the whole problem. Together with the symptoms, it showed the case to be one of pyæmic—not septicæmic—poisoning in a woman feeble and unable to resist the absorption of pus. Septicæmia could not arise after all open surfaces had become purulent. The examination was valuable, and he thought it would be better if more care was generally exercised in this direction.

CLINICAL PHENOMENA FOLLOWING THE PUERPERAL STATE IN TWO CASES.—Dr. PHILIP M. SCHIEDT read a paper with this title. In the first case he was suddenly summoned to the bedside of a woman, aged about thirty-five, whom he found comatose, with the pupils undilated, the head drawn to the left side and flexed on the chest, a clammy sweat on the forehead, and the pulse imperceptible. The heart sounds were faintly detected, and the body and extremities were warm. Restoratives and artificial respiration were without avail, and the patient soon expired. The history of the case, subsequently ascertained from the family physician, was as follows: She had been delivered of a child after a natural labor two weeks previously, which was followed by a normal convalescence unaccompanied by fever or offensiveness of the lochial discharge. Her babe was healthy, and was

* "Jour. of the Am. Med. Assoc.," February 16th, from "Archives de physiologie."

regularly nursed by her, and she was doing so well that her physician had ceased his visits. On the morning of her death she felt unusually well, but about nine o'clock complained of some headache; vomited a little mucus; had a heavy chill; became unconscious, and was found in the condition described, which soon terminated in death. The notes were presented to the society for the purpose of obtaining the opinions of its members as to the cause of death, the writer expressing a belief in its cardiac origin.

The other case was one of *Temporary Blindness following Labor*. After a perfectly natural labor, three hours in duration, the mother failed to see her child when it was presented by the nurse. It was found that she was perfectly blind and irresponsible to the candle test. She remained fully conscious and in possession of her other senses. This continued three days, and was followed by gradual and complete recovery. During this time there was nothing otherwise abnormal in her condition. There was no œdema, therefore no examination of the urine was made. Previous to confinement she had been well able to attend to her duties.

Dr. L. BREWER HALL, in discussing the second case, said the most plausible explanation of such rapidly disappearing blindness was œdema, giving rise to choked disc. The cases reported had not been properly examined by an ophthalmologist, an omission frequently inexcusable. Some patients did not get well, and then we found an atrophy of the optic nerve. He had seen quite a large number of hysterical cases, at times unicolor, and such cases were easily diagnosed by feints and attempts to discover that the patients did see, while off their guard. Some one should always be called in in these cases to make an ophthalmoscopic examination.

Dr. SMITH acknowledged the want of exact information, while the uræmic origin of such cases had been assumed.

Dr. G. BETTON MASSEY denied the necessity of assuming that cases of hysterical blindness were mere malingering. Such patients at times might be perfectly honest as to their inability to see, the real condition being one of divorce between the volitional and the intellectual powers of the mind.

TRACHEOTOMY IN CROUP AND DIPHTHERIA.—Dr. MONTGOMERY read a paper based on an experience of twelve cases, in one of which, a case of diphtheria, the patient had recovered and was exhibited to the society. Five of the operations were for diphtheria, the remainder for croup. In all, the operation was one of last resort, and the series taught the importance of early operation. Death occurred most frequently between the third and fourth days; one patient died in fifteen hours, a second in thirty-six hours, and another on the ninth day. In the successful case the cannula, owing to laryngeal spasm, remained until the twenty-fourth day. In operating, he gave chloroform, and avoided hemorrhage by transfixing a fold of skin held by himself and an assistant, making an incision an inch long, completing the dissection to the trachea by the forceps and grooved director. After opening the trachea, care was observed to remove all membrane previous to inserting the cannula. The after-treatment consisted in attentions to the tube, keeping several thicknesses of tarleton wet with hot carbolized water over it. The temperature of the room was maintained at between 75° and 80° F., and stimulants and good food were given, together with quinine, tincture of chloride of iron, and corrosive sublimate—the latter in frequently repeated doses. The attempt was made to dispense with the tube from the fifth to the eighth day, but it should not be removed until respiration *per vias naturales* was fully established. From these cases he drew the following conclusions: 1. That tracheotomy is justifiable in diphtheria as well as in croup. 2. That it should be performed in croup when it is evident that drugs do not control the progress of the disease,

particularly when there is depression of the lower end of the sternum during inspiration; in diphtheria with the advent of suffocative symptoms. 3. That in the performance of the operation the knife should only be used to incise the skin and trachea, the intervening tissue being torn by director and forceps. 4. That the subsequent use of proper drugs will promote a favorable result.

Dr. COLLINS recalled several flattering cases which in a few days showed crape on the door. He doubted the propriety of anæsthesia, but thought the operation justifiable if only as a means of procuring easy death.

Dr. W. H. PARISH said this operation, which was one of the easiest in performance, should be resorted to whenever the symptoms were of such a character as to show impending suffocation. To determine this required no little judgment, and he recalled a case of recovery without operation where both himself and Dr. Allis had agreed it should be performed. He treats diphtheria by large doses of chlorate of potassium and iron.

Dr. W. H. WARDER, in discussing the treatment of diphtheria, thought the chlorate of potassium and tincture of chloride of iron most successful in ordinary cases. In more malignant ones he had resorted to calomel in five-grain doses. In a case which Dr. Pepper had seen with him the latter advised a continuance of this plan for forty-eight hours. At the end of this time forty grains had been taken, a large and offensive evacuation followed, and the child recovered. He did not think such large doses usually necessary, however. Much of the calomel passed without other change than oxidation.

G. BETTON MASSEY, M. D., *Recording Secretary*.

Miscellany.

THERAPEUTICAL NOTES.—*Three New Anti-syphilitic Remedies*.—The "Revue de thérapeutique médico-chirurgicale" (quoted by "Lyon médical") mentions three new remedies against syphilis: *Cascara amara*, baroba, and *Berberis aquifolium*. The *Cascara amara* is a tree of the genus picramnia, found in Honduras. A liquid extract is made from the bark, and is given in doses of forty or fifty drops in the secondary syphilis of adults. Its action is quite prompt, and it has a remarkable tonic effect. It was brought forward by Dr. Frohling, of Mexico, who cured a syphilitic iritis with it in three days. Baroba is found in Brazil. From fifteen to sixty drops of a liquid extract made from the leaves are to be given daily. This extract, which was made use of by Camille Weber, of Leipsic, and by Edison, in inveterate forms of secondary syphilis, is now recognized in the French pharmacopœia. It is a valuable anti-syphilitic, having also evident tonic properties. The *Berberis aquifolium* comes from Tennessee. Baird, of Moscow, advises the use of an aqueous extract in conjunction with iodide of potassium.

Amorphous Borate of Quinine is recommended by Finkler and Prior, of the medical clinic of Bonn ("Dtsch. med. Woch.," "Centralbl. f. d. ges. Therapie"). It is described as a yellowish body, not so bitter as the usual salts of quinine, and soluble in about its own bulk of water. It was used by the authors in doses of from seven to fifteen grains, repeated every hour or half-hour, so that about forty-five grains were given within from two to four hours. It seemed to be borne best when diluted with a considerable quantity of water, and when a little wine or cognac was taken after it. It did not give rise to digestive disturbance, and the tinnitus aurium caused by it appeared to be less than that which is produced by the ordinary salts of quinine. Its efficacy was tested in typhoid fever (five cases), septic fever (in a case of suppurative spondylomyelitis), erysipelas, pneumonia (three cases), phthisis, and trifacial neuralgia. As regards reduction of temperature, its action is slower than that of the common salts of quinine, but

more persistent. In the case of trifacial neuralgia, thirty grains were given the day before an expected attack, and the attack was notably ameliorated. For six days more the patient took seven grains daily, and no more attacks occurred.

Sclerotinic Acid in the Treatment of Epilepsy has been tried in twelve cases by M. Bourneville and M. Bricon ("Progrès médical"), and improvement was witnessed in only five of the cases, so that the authors do not think the remedy can be said to hold out much hope. They gave it both hypodermically and by the mouth. It was noticed that most of the patients lost weight, an effect which the authors can not explain.

Iridin in the Vomiting of Pregnancy.—At a recent meeting of the Paris Société de Thérapeutique, M. Gueneau de Mussy ("Progrès médical") spoke of the enthusiasm which he had found among the Edinburgh physicians in regard to the use of iridin in the treatment of the vomiting of pregnancy. Dr. Berry Hart, who had used it in ten cases, without a single failure, gave it in the form of pills, each pill containing three grains of iridin, with a sufficient quantity of conserve of roses. A pill is given every night, followed by a saline cathartic in the morning. Considering the histological change undergone by the liver during pregnancy, M. Gueneau de Mussy thought the action of the remedy probably depended on its chologogue property.

Euonymin as a Chologogue.—On the same occasion M. Gueneau de Mussy stated that he had found the following pill an excellent chologogue, given every night:

Euonymin	$\frac{2}{3}$ to $\frac{1}{2}$ of a grain;
Resin of podophyllum	$\frac{1}{10}$ to $\frac{1}{6}$ "
Extract of hyoscyamus or of belladonna	$\frac{1}{4}$ "

The Treatment of Biliary Colic.—M. Blondeau stated at the same meeting that he treated hepatic colic with the following pills, giving from one to three daily:

Extract of hyoscyamus } each	$\frac{1}{2}$ of a grain;
Extract of nux vomica }	
Resin of podophyllum	$\frac{1}{2}$ "
Soap	$\frac{1}{2}$ "

Terebinthinate Vapor Baths for Dysmenorrhœa and Leucorrhœa were the subject of a paper read by M. Brémoud at the same meeting. He had observed that the process was accompanied by the disengagement of ozone, which could not but be beneficial to the general nutrition. In the discussion, M. Constantin Paul remarked that he had known the baths to act well as an emmenagogue in women who were inclined to grow stout, but he wished that the reader had been more explicit in speaking of leucorrhœa, which was only a symptom. As for ozone, it could easily be made by inexpensive processes.

Water Aerated with Oxygen.—M. Dujardin-Beaumez mentioned at the same meeting that he had been employing water aerated with oxygen, instead of carbonic acid, in the so-called "siphons" used for mineral waters. He thought that, on account of the disinfectant property of oxygen, water so impregnated would make a good wash for wounds and for the throat in cases of diphtheria. Besides, it was a promoter of digestion.

The Turpentine Treatment of Diphtheria.—Satlow ("Jahrbuch f. Kinderheilk.," "St. Petersb. med. Woch.") relates his experience in forty-three cases, eight of the patients being adults and thirty-five children. Only one died, a child five years old, who died of paralysis of the heart on the sixteenth day. The cases were all diphtheria proper, the author having had no experience with the treatment in the so-called scarlatinal diphtheria. In the patients who recovered the following complications occurred: Invasion of the larynx (three cases), nasal diphtheria (three cases), persistent albuminuria (one case), transitory albuminuria (six cases), hæmaturia (one case), diphtheric paralyseis (four cases). The complications, therefore, were most commonly renal, but whether or not they were due to the remedy the author is uncertain, for renal complications are common in diphtheria. In addition to the oil of turpentine, the usual treatment for diphtheria was employed, but there was no case of tracheotomy. The turpentine was used in large doses—a teaspoonful for children, even those under five years of age; a dessertspoonful for older children; and a tablespoonful for adults. It was always discontinued as soon as the disease began to improve, or as soon as stranguy was complained of, and the renal

symptoms disappeared when it was stopped. The dose caused a sense of burning in the throat, a feeling of oppression in the stomach, and in a few instances vomiting. These effects were mitigated by giving copious draughts of milk or wine after the medicine was swallowed, and, toward the last of the trials, by mixing the turpentine with one-fifteenth its bulk of sulphuric ether. The first beneficial effect of the remedy was a disappearance of the fœtor, even in gangrenous cases; then the edges of the patches swelled up and became softer, the submaxillary glands grew smaller and less tender, and the soreness in the pharynx became less. No effect was produced upon the fever.

A Caution concerning Chloroform and Strychnine.—Dr. E. Garraway writes to the "British Medical Journal" that a prescription calling for a fluidrachm of solution of sulphate of strychnine, three fluidrachms of spirit of chloroform, and water enough to make a fluidounce and a half, was put up for a lady, with directions that a teaspoonful was to be taken three times a day in water. On taking the final dose, which tasted unusually hot, the patient was seized with spasmodic contraction of the extensors of the feet and legs, which soon passed off, although alarming at the time. On his being shown the bottle, a drop or two of water was seen remaining in it, and beneath this a globule of chloroform which proved to be highly charged with strychnine. His explanation is that more chloroform was ordered than the water would take up, and the surplus, being a ready solvent of sulphate of strychnine, took up a large amount of the salt and fell to the bottom.

THE ILLINOIS MEDICAL PRACTICE ACT.—Recent decisions in two cases—one under the Act to Regulate the Practice of Medicine in Illinois, the other under the Dental Surgery Act—sustain the right of the Board of Health to determine the status both of a college and of a practitioner. Under the latter act the Supreme Court refused the petition of Isaac N. Sheppard for a writ of mandamus to compel the State Board of Dental Examiners to issue him a certificate or license based upon a diploma of the Indiana Dental College. The board refused the license on the ground that the college was not a "reputable" institution.

It was argued that the law constituted the board judges of the standing of a college, and that there was no power of review vested in any other body. "If the board should arbitrarily or unreasonably abuse their discretion, and refuse a license without any reason therefor, there was a remedy for such abuse of a discretionary power. But there was no ground for maintaining that this was the case in the present instance. The board, in its judgment, had decided that the curriculum of study and requirements for graduation of the Indiana Dental College were not such as to entitle it to be classed as a 'reputable dental college'; and there was no power in the law given to any person or body to review and set aside, or confirm, the exercise of the discretion by the board. The petition for a mandamus was denied.

In the case of the State Board of Health against C. Buel Rice, of Cincinnati, a graduate of the Medical College of Fort Wayne, tried in the Sangamon County Court, the defense set up the plea that, being a graduate of a "legally-chartered medical institution in good standing," the defendant was entitled to the certificate of the board; and that it was not competent for the board to inquire into the moral or professional character of such graduates. On the part of the prosecution it was shown that charges had been presented to the board, alleging that Rice was in the employ of, and associated with, the "K. and K. Surgeons," a firm of advertising quacks, and that in various ways connected therewith his conduct was unprofessional and dishonorable within the meaning and intent of the Medical Practice Act. Upon these charges the board had refused to issue Rice a certificate until he had disproved the same. Instead of making any attempt at such disproof, Rice continued to practice; whereupon he was arrested for practicing without the necessary certificate. The facts were admitted by the defense, but, as already stated, the Court was asked to dismiss the suit on the ground that it was obligatory on the board to issue its certificate to the possessor of a genuine diploma of any "legally-chartered medical institution in good standing," regardless of the moral or professional status of the individual. This the Court declined to do, but found the defendant guilty, and assessed a penalty of fifty dollars fine and costs.

Lectures and Addresses.

THE MODERN PHYSICIAN THE MEDI-
ATOR OF SCIENCE.

AN ADDRESS DELIVERED AT THE ACADEMY OF MUSIC, BROOKLYN, MAY 21, 1884, BEFORE THE GRADUATING CLASS OF THE LONG ISLAND COLLEGE HOSPITAL.

BY THE REV. ALBERT J. LYMAN, OF BROOKLYN.

MR. PRESIDENT, GENTLEMEN OF THE FACULTY, MEMBERS OF THE GRADUATING CLASS: The courtesy which permits one of the younger men in the ranks of another profession, foreign, though not alien, to that so honorably represented here to-night, to say a word before the graduating class of the Long Island College Hospital, must also pardon the insufficiency of any possible response I can make to that courtesy. For I can stand here appropriately neither as adviser nor as lecturer. I suspect I am not old enough for the one office nor wise enough for the other.

A year ago, upon your last anniversary, the wide experience and genial sagacity of a gentleman whom Brooklyn respects and honors—the accomplished Rector of Holy Trinity Church—were illustrated upon this platform in an address replete with practical counsel. He crowded the hour and crowned it with good advice. He described the doctor's duty to the people, and the people's duty to the doctor, and put the whole case between the two in such a pungent way that since that speech I do not suppose a patient's case has been neglected, or a doctor's bill remained unpaid in the entire city of Brooklyn.

But good advice is completed when Dr. Hall takes his seat, and I certainly shall not run the risk of shuffling along in his maturer footsteps. Not that the epoch of graduation is unsuited to receive advice. On the contrary, no feature is so admirable in the behavior of the student about to take his degree as the equanimity with which he is able to absorb the vast tide of good advice upon which that degree is floated into his hands. And, on the other side, his friends are equally ready to give their counsel to him. It is impossible to look at a young graduate and not want to advise him. In this Academy to-night, to say nothing of the graver aspect of the Faculty, the personal congratulations of the hour are full of latent admonition. The masculine handshake and the feminine smile come to you thus freighted. Cautions, warnings, suggestions, practical nuggets, points on behavior in the sick-room and out of it, wise saws, pithy reminders, short recipes for success, are flying about your heads at this moment like *confetti* at a Roman Carnival.

Their presence is not a slur upon your ability of self-guidance, still less a token of distrust in you; they are rather tokens of the interest with which your college and your city regard you; they are more than that: they constitute a testimony to the critical and even sublime character of that instant when, after long preparation, a man is fairly launched upon the arena of his profession, and starts with a thousand competitors in the race of his life.

On the other hand, still less can I assume the office of

lecturer and usurp the place of gentlemen who from a more strictly professional standpoint have addressed you, defining your professional ends, describing the sweep of the science you study, and the glory of its achievements.

This is your field and the field of your instructors; and for me to enter it would be worse than carrying coals to Newcastle. It would be *stealing* the coals before carrying them. It would be like presenting second-hand pill-boxes to the Long Island College Hospital—an institution that never takes anything second-hand.

You perceive, then, gentlemen, my unfortunate position. Unable to adopt the rôle of adviser on the one hand or lecturer on the other, I am somewhat in the position of the husband of the Irish shop-mistress, who said that she married her husband "nayther for love nor for money, but for the pure convanience of the shop." My only resort must be to the "convanience" of the moment. In other words, I must simply speak straight out to you my own fellow-feeling and good wishes as one man may to another. And, standing within the inclosure of an adjacent profession, near enough to your own for us to talk to one another "over the fences and between the slats," I may perhaps venture also to offer a remark or two upon a feature of the medical profession in our time which has warmly attracted my admiration, and which, if I mistake not, is more and more attracting and commanding the attention of society at large. I refer to what I may call, if you will permit a long phrase for a simple idea, the *mediatorial office of the modern physician*, as between pure science on the one hand and the practical life of society on the other—i. e., popular philanthropy and public reform.

In our time and land science is both in correspondence and in curious contrast with the popular spirit. The present age is distinguished by the rapidity with which public tendencies take on organized form. You remember Dickens's rattling description of Tom Pinch on the stage-coach bowling up to London, and the growing excitement as the great city came nearer. Some such excitement seizes on a student as he looks out upon the arena of American public life. Its movements are bewildering. The abrupt financial whirlwind of last week is only one of many exhibitions of the power and instantaneous stroke of the forces that are playing through the fabric of our society. Men stand or fall together. Interests are complex and consolidated. Public feeling forms rapidly, and is decisive and formidable. In the midst of this foaming sea of popular currents and practical enterprises, science presents herself with her separate technique, her patient processes, her eternal reserve. As between the two, science and society, the time calls for a mediator. Let me, then, briefly indicate one or two reasons vindicating that title which, in the rapidly forming judgment of thoughtful men, the modern physician is coming to wear—the title of the *mediator of science*.

By this I mean much more than the truism that a physician applies his own knowledge in his own field. This is true, of course. Physicians are practical men. Mere theorists are not physicians. Your college repudiates dreamers as promptly as it does drones. You do not enter the sick-

room to expound therapeutics, but to apply it. You are not there to read monographs upon the *Bacillus tuberculosis*, but to alleviate, so far as possible, the consumptive's pathetic decay. There is such a thing, however, as overdoing the practical. The accurate picture of what the true practitioner is *not* is well given in a little story of the war. When the low improvised shanties were set up in the New York City Hall Park as temporary hospitals, one blazing-hot afternoon a fussy, elderly matron came into one of the wards, bearing an immense bottle of bay-rum. On one of the cots lay a grim-looking soldier, minus an arm and part of a leg. As she approached the cot the following colloquy ensued:

"Good afternoon, sir," He nodded. "You must be very uncomfortable this hot afternoon." "Not so very." "Wouldn't it refresh you if I should sponge off your face with bay-rum?" "No, mum, I guess not." "I think it would. I am *so* interested in the poor soldiers; it would be *no* trouble to do it." "Well, mum, if you want to so much, then fire away." And away she fired, and sponged and sponged until she was exhausted. "There, now, don't you feel very much better?" "No, mum, I can't say as I do." She, with a little temper, and drawing on her gloves, "Well, I should think you would. I should think you would appreciate what is done for you. I don't suppose you ever had anybody sponge off your face before." "Yes, mum, this makes *thirteen* times I've been sponged off to-day, mum. I've notched 'em with my knife on that 'ere cheer where your bottle is"—reaching out his remaining arm and counting, "one, two, three. Yes'm, it's just thirteen times I've been sponged off to-day."

Further, also, of course, the cultivated physician is the supreme *arbitrator* in his own field. What we say of the physician is this: first train him, then *trust* him. Within his own sphere, the physician is and must be an autocrat. "It can not be better done," said the architect when somebody found fault with his cathedral. This, within limits, is the legitimate professional spirit. Dr. Abernethy, perhaps, carried the autocratic spirit to an extreme. When a lady told him that whenever she lifted up her arm it pained her exceedingly, "Then what a fool you must be to lift it up," he replied. Nevertheless, your college intends to equip you with an authority which, in its own domain, should be as unimpeachable as that of a general in a battle.

All this is a truism. But by mediatorship I mean much more than this practical supremacy in your own field.

"Humanity sweeps onward," and in nothing more unmistakably than in the power of discriminating and defining the relative duties of the professions. In former times the edges of the professions were blurred and ran together; pedagogues were politicians, and monks were surgeons; but now we are able to fix with approximate accuracy the true point of professional fitness and efficiency—the place of fitness always being the place of power.

And in this clearer modern light the public is coming to recognize a function of the medical profession larger than that of the mere professionalist—a function as difficult as it is novel and honorable. No other profession can so well discharge it, and yet some one must discharge it. Some

one must mediate between science *on the whole* and society on the whole.

Physical science to-day distinctly faces in the one direction ethics and civil law. In another direction science faces philanthropy and public charities. Some one must keep the peace between these three Colossi. We are talking about the conflict between science and religion. This is not the true issue, because the fields are dissimilar and separate. The real *issue*, I will not call it a conflict, is, on the one hand, between science and morals, as recorded in public custom and civil law; and, on the other hand, between science and philanthropy, as expressed in public charities. Some one must mediate, to secure good understanding and mutual co-operation between the members of this modern triumvirate. In a word, some one must constitute the vital bond between the cool conclusions of the library and laboratory and the ardent currents of a practical civilization.

Who, then, is so well placed and trained as the physician to accomplish this? He must be a man wise enough, and firm enough, and large enough to do it.

It was said of Count Cavour that "he not only taught Italy the art of government, but also taught Europe that Italy could govern."

So the doctor is the ambassador of science to fields beyond her own; because in his field science may be said to culminate. The human body is the house at the cross-roads, where physics and morals join. It is the peculiarity of your science that it gathers up, combines, and caps all other sciences, while, on the other hand, it is upon you that the sharpest challenge falls of public practical demand.

You are, then, not only on the deck of your own profession, but you are right over the cut-water, where the *entire craft* of modern physical science plows its way into the shifting waves of public sentiment and discussion; or, to change the figure, the modern physician stands at the knot, or—if my friend, Professor Armour, will forgive my poaching for a word—at the "*ganglion*," whither all the scientific strands converge, whence all the philanthropic strands diverge. This thought, if true, is stirring enough to excuse a moment's argument.

By mediator, then, let me say I do not mean a go-between. A middle-man is no more a mediator than a ferry-boat is a bridge. The true mediator must be a man large enough to incorporate *both* of two contrasted sentiments in *their entirety*. And the glory of the physician is precisely this, that he must be and can be complete scientist and complete philanthropist in one.

Is this possible? It is more than possible. It is actual in the instance of the foremost men in your profession to-day. Is it not true that the most brilliant medical discoveries of the age have been made by physicians who are in actual practice? The detection, e. g., of those parasitic marauders which, it is said, form the germs of certain of the deadliest diseases, has been accomplished not by savants but by practitioners. On the road down to Jericho these modern Samaritans have not only succored the wounded traveler, but tracked and caught the thieves.

One is struck with the location of the statue of Sir Robert Peel in London. It stands, you may remember, in St.

Margaret's Square, midway between Westminster Hospital on the west and the Law Courts of Westminster Hall on the east. It is a most appropriate position. At once statesman and philanthropist, Sir Robert's statue seems fitly associated with the institutions of both medicine and law, while away from the statue leads the street known as the Broad Sanctuary, down past the eloquent façade of Westminster Abbey. So, midway between the scientific laboratory and the sick-chamber stands the physician, the only man in our civilization who can stand there—reaching a hand in either direction—incorporating at once the spirit of science and the spirit of sympathy—combining the enthusiasm of the scholar with that of the healer—bringing the delicate and rigid processes of physiology to bear upon social institutions and civil codes—translating chemical hieroglyphics into the vernacular of popular precepts—transmuting the winnowed grain of scientific analysis into the living blooms of public health. The local necrology of the past year is full of noble examples in this regard. Men like Willard Parker and Marion Sims represent a professional ideal ample enough to fully unite the scientific and the philanthropic enthusiasms.

But more than this. The special point of the fact and the argument is this—that it is the *modern* physician who sustains by pre-eminence this peculiar office of mediation. And the reason of such an assertion is plain, because the *occasion* for mediation must arise before mediation itself can exist; and this is a matter of time and developed society. North and South must grow strong enough to separate before Abraham Lincoln becomes possible. Controversy before arbitration! Contestants before peacemakers!

In other words, centuries must roll away. Antagonistic or antithetic sentiments must arise in society, grow, develop, gather volume, overflow into prejudices, crystallize into definite forms, positive creeds, endowed institutions—in a word, become matured, tenacious, and powerful, like two great rival camps in the body politic, before the mediator is called for; but then he is called for.

The mediatorial function of the physician, then, is only just becoming defined. Sanitary science, so called, has been developed within the last two decades. The ancient chaos of medical jurisprudence has but recently emerged into better form. Public sentiment is only just taking shape upon questions of the powers of boards of health and the necessity of legal sanitary regulations.

Why, gentlemen, it is not so very long ago since three spiders hung about a man's neck were supposed to be a cure for the ague, and a wolf's head under the pillow at night a cure for sleeplessness.

In a MS. of the Abbey of Bardney, in Lincolnshire, in 1530, is the following recipe: "To Cure Aches.—Take the juice of camomile, or else the juice of wormwood, and a quantity of sugar and good ale, and drink nine days, and the patient shall be whole by the grace of God!"

This, however, is not quite so bad as the old Saxon cure for fever, which was, "*A live wisp tied to the patient.*"*

* See a work entitled "Leechdoms, Wortcunning, and Star-craft of Early England," published under the authority of the Master of the Rolls, and edited by the Rev. O. Cockayne, M. A.

We might safely consider that a certain cure for laziness, but hardly a cure for fever. Even this, however, is surpassed by the Saxon cure for lunacy. "Take the skin of mere-swine, or porpoise, work it into a whip, swinge the man therewith, soon he shall be well. Amen!"*

But now superstition is dead or decadent. On the other hand, philanthropy is awake, and intelligently awake. Millions of money are going to public charities and boards of health, and even now hundreds of unfortunate sufferers who are afflicted with that most intolerable of diseases, cancer, are beholding their new promised hospital as if already rising in the air.

A great ardor is enkindled for healthful reform, not merely reform, but *healthful* reform. From hygienic lasts for shoes up to the broadest questions of national politics, the real cry is "*Health* in reform," and the public want that official and that candidate who is the best *doctor* for the body politic.

Now, all this force of aroused public sentiment is noblest and strongest in the philanthropic and sanitary field. Almost for the first time, then, a really scientific mediation is made possible, and it certainly is desirable, for public enthusiasm, however generous, is not always wise. It has become imperatively and instantly necessary that some one should speak upon the questions of tenements—questions of hospitals and asylums—questions of epidemics—questions of public charities and of sanitary laws, who can speak with the full authority of science on the one hand and with practical public sympathies on the other. And our civilization and the common thought of thoughtful men are bringing the physician to the front as the man, and the only man, to do it.

Or, we may represent the matter in another way. It would seem that the natural history of science traverses a curve, as though a footpath ran over a mountain. And in this curve we may perhaps distinguish *five* posts or stations:

First: That of *observation*.

Second: That of *analysis*.

Third: At the summit, that of *discovery*.

Fourth: That of *specialism* or detailed application.

Fifth: That of *final mediation*.

From the plain of common life the mountain of science thus arises, with two steps on either side its pinnacle. First is the plateau of the observers, men like Audubon the ornithologist. Then come the experimenters and analysts, men like Helmholtz and Huxley. Then at the very summit the great discoverers, the Newtons and Darwins of science.

But nature does not leave the pinnacle of science thus hanging in the air. Nature loves *men*, and so the curve of scientific development bends down again toward the practical, and we enter the zone of the specialists, and then at last the field of those who have, perhaps, the finest mission of all, the mediators—men who, having traversed the entire tract of science, mingle again with the crowd on the plain and constitute the living link between the summits of in-

* "A Chronology of Medicine, Ancient, Mediæval, and Modern," by John Morgan Richards, London, 1880.

tellectual discovery and the varied fields of practical experience.

Here, I submit, is where the profession of medicine is called to stand at the present hour—only remember, gentlemen, that no man is fitted to take that final position of mediator who has not come to it *over the summit*. He must have made the acquaintance of the "*Dii majorem gentium*" of science.

The Long Island College Hospital does not tolerate empiricism. The Long Island College Hospital believes sometimes in cutting, but never in "short cuts." In the course of the twenty-five years of its history this institution has justified its claim to a steadily increasing practical efficiency and promptness of response to public need and demand; and yet, on the other hand, you, gentlemen, and all who have watched the progress of this college, are witnesses that the Long Island College Hospital believes in study before practice, and in mastery before mediation.

No one can conquer Gaul until he has climbed and crossed the Alpine crests. He who slips through underground, the same is a thief and a "quack."

Now the rarer men traverse the entire tract of the five steps we have mentioned. Such men as the German surgeon von Graefe, and Harvey, of England, are at once observers and discoverers, and, still passing onward, they beat and broaden out their special knowledge until it again takes hold of common life and becomes the safeguard of the masses and the guarantee of healthful laws.

It has required a long time to bring all this about, and advance medicine to its present representative position in the scientific world.

The story of mediæval physiology is most grotesque. When preachers were doctors, both professions were spoiled; and practitioners deserved that epithet which Pliny bestowed upon the practitioners of his day, that they were the "only men in Rome who could kill another man with impunity."

In the Middle Ages, astrology was tangled up with chemistry. Mediæval lectures were filled with the fantasies of the cloister. For pain in the joints the Saxon rule was, "Sing nine times this incantation, 'Malignus obligavit, angelus curavit, dominus salvavit.'" In order to stanch the flow of blood a man had to say, "Stupid on a mountain went, stupid, stupid was"—Such incoherent drivel was gravely repeated. Still more simple was the cure for the stomachache, when the physician placed his hand on the man's body and said, "Stolpus tumbled out of heaven." Remedies were surrounded with superstitious rites. The priests were the most popular physicians. To such a gross extent was this *mésalliance* carried that even the Church interfered. At the Lateran Council, in 1123, a decree was made forbidding monks from attending the sick otherwise than in a spiritual capacity. Other decrees followed. At Rheims, in 1131, monks were debarred from attending schools of medicine. In 1215, Pope Innocent III directed an anathema against clerical surgery. No priest was to perform an operation where steel or fire was used. Still the evil continued. The practice of medicine was a fanatical empiricism of the worst kind. In 1345, apothecaries were

united with grocers (as from some of the current adulterations we are inclined to think they are still) and surgeons with barbers. Men's bodies were supposed to be governed by zodiacal signs. Fancies and facts were confounded together. Men watched themselves for occult and whimsical symptoms. They dwelt on their own moods. The vagaries of the devotee were accepted data. For a contusion on the head they pounded a board laid across the feet, so as to "spring the skull back into its place." Medical lecturers were like the cranks and zealots of our day, who narrate their dreams, tell which shoe they put on first in the morning, make morbid confessions, recite harangues which are merely experiments in spiritual vivisection, performed by the demonstrator on himself in the presence of the class, reminding one of that provincial English actor who played Hamlet, and, when he lacked an orchestra, was accustomed to die to slow music, performing on the clarinet himself.

From such a wretched level sprang the lofty curve of modern physiological science. Indeed, we may say that the *whole story* of modern physical science is in physiology, using that word in its large sense. The physician, then, is not a mere specialist. He is the child of the science of the world. The entire history of science—the early fallacies—the speculative perils—the mischiefs of false methods of investigation—the gradual rise of the true method, experimental, inductive, exhaustive—the splendid results of that method—the unearthing of obscure facts—the unraveling of intricate webs—the singling out of critical points in a maze of particulars, the unification of varied phenomena under a single law—all these, which are common features in the history of all sciences, are nowhere more distinctly and compactly shown than in the field of physiology. Then add to this the singularly vital character of the field of physiology itself, occupying the very table-land and crown of nature—its forces nature's finest, its products nature's fairest—and we have reason enough why the modern physician is not only the arbiter in his own domain, but is also called to *mediate on the whole field*—between science in general and the practical sentiments of society. For, gentlemen, certainly all sciences labor for you. Chemistry, with its almost fabulous combinations, and mechanics, with its superb balancings of weights and masses, meet in the wonderful structure which it is your business to study. The paleontologist works for you in his buried rock-world. At the other extreme the biologist works for you, and even the arts of the painter and sculptor aid you, revealing the mystery of life and the perfection of form in this same consummate fabric of the human body whose misfortunes it is your duty to alleviate and whose health it is your privilege to maintain.

Physical science, then, both in the perfection of its methods and in the dignity of its spirit, may be said to culminate in the arena occupied by your profession. Medicine furnishes the metropolitan center. It is the Square of St. Mark's in the Venice of science—to which all scientific knowledge contributes, and in which both the problems and the powers of science are most distinctly shown, while at the same instant, upon the same field, at the very same point of it, you confront the dim and tremendous cerebral phe-

nomena which relate to the moral life, and meet the imperative appeal by which a suffering humanity proffers its incalculable claim. Such a position and such a profession are, in the supreme degree, mediatorial, if any position and any profession can be.

Only one word more, for your patience convinces me that Christian graces as well as medical arts are practiced at the Long Island College Hospital—a word more, directly to yourselves, as members of this graduating class. If there be any truth in the idea which has been thus rudely and hurriedly sketched to-night, I can not conceive of a more commanding ethical motive than it furnishes, as it bears upon the mind of the young physician, inspiring him to maintain a high professional and personal ideal.

For science looks to you not to misrepresent it, while on the other hand society looks to you not to misunderstand it. In this delicate, unprecedented position your profession places you. You are, if one may use a rather dusky metaphor, to pacify the Soudan as well as hold Khartoum. Only *character* can sustain such a position. Ethical soundness—intellectual fairness! You are to be fair to both sides. Other people study ethics. You are to practice it.

A true mediator must within himself *incorporate* his mediation.

It goes without saying, and yet it is worth saying, that the Long Island College Hospital expects every graduate to be a gentleman. May we not also say that science expects every physician to make his manhood true, for in his personality Science embodies herself in her most acute contact with the community. In the fullness and fairness of his character is her claim justified.

I congratulate you, then, gentlemen, upon the profession you are to enter, and the epoch at which you enter it. Your college will look to you to uphold her name and fame. You are to love science and hate shams. In the breadth and accuracy of your knowledge, in the many fidelity of your use of it, you are to illustrate the dignity of your profession, and record its protest against charlatanry, for Humbug dies hard, and, under pretense of panaceas and specifics, mind-reading and faith-cures, and what not, empirics are yet abroad, peripatetic usurpers, whose medical stock in trade is made up as Thackeray says he made up Captain Costigan—out of “scraps, heel-taps, odds and ends of characters.” Such counterfeits, however, only show the value of the true gold. Under the double banner of science and of practical sympathy your college sends you forth to a service whose demand was never more instant, whose prizes were never more noble. From my heart let me say, God speed you, gentlemen! Your mission is delicate and responsible. Be true at once to the science that equips you, and the public that invites you. Bind together those factors of our civilization which narrow men on both sides are forcing into foolish and false antagonism. You are the true Mediators. In your fidelity of private practice you will discharge a sublime public errand. Not only in quieting the pulse of fever and calming the perturbed brain, restoring to the invalid that physical play and repose which seemed to the old Greeks like a music, but in that larger office also to which your profession is summoned in

the stirring and splendid arena of the immediate future, may you fulfill the requisition of that noblest assurance of our holy religion, “Blessed are the *Peacemakers*, for they shall be called the Children of God.”

Original Communications.

NOTES ON ALBUMINURIA IN HEALTH.

By GASPAR GRISWOLD, M.D., M. R. C. S.

EVER since the discovery of Bright was made known to the medical profession in 1827, the presence of albumin in the urine has been looked upon as almost positive proof of the existence of disease of the kidneys. This view was unassailed so long as physicians examined the urine only in those cases where dropsy or other renal symptoms had already pointed the way to a diagnosis. In the last few years, however, much attention has been directed to the study of latent Bright's disease, and it has gradually become the habit of many physicians to examine the urine of nearly all patients as a matter of routine practice. Life insurance companies, also, have made it a rule to examine the urine of all applicants, even when they appear to be enjoying robust health. These investigations have revealed the important and even startling fact that albumin may be present in the urine of individuals who consider themselves perfectly well, and have every appearance of being so. Careful observations have shown that in these cases albuminuria may continue for years, or may be transient, lasting only for days or weeks; in other cases it may be intermittent, appearing at certain times in the day, but being absent during the remainder of the twenty-four hours. The question at once presents itself: Are these cases of albuminuria in health to be looked upon as instances of functional disturbance within physiological limits, or as instances of organic changes in the kidney structure which only fail to produce constitutional symptoms because they are not sufficiently extensive? An attempt to answer this question will very properly be preceded by a short consideration of the different ways in which albuminuria may be produced. In the first place, it must be borne in mind that the blood-plasma is constantly oozing through the walls of the capillaries throughout the body, bathing the tissues, and then flowing back through the lymphatics to re-enter the blood circulation at the junction of the internal jugular and subclavian veins in the neck. The capillaries which make up the Malpighian tufts, and those which ramify about the kidney tubules, are an exception to this rule. They are surrounded with an epithelium which, by a selective action, discriminates between the substances which are to be excreted and those which are to be retained in the circulation. So long as this epithelium remains intact, only the constituents of normal urine can escape through the capillary walls; so soon, however, as the epithelium is cast off or becomes degenerated, the blood-plasma, with its albumin and peptones, finds its way into the urine. It is

the presence of the renal epithelium which makes the difference between capillary exosmosis in the kidneys and capillary exosmosis elsewhere in the tissues; when this epithelium has been removed or destroyed, the exposed capillary walls permit the exosmosis of albumin and peptones in the same way that it occurs in the capillaries of the tissues generally. According to Uitzmann, peptones are always present in albuminous urine.

Simple active hyperæmia of the kidneys, without structural change, will not cause albuminuria; the abundant urines which attend hysteria, or follow the ingestion of large quantities of fluid, are never albuminous. Albuminous urine is scanty and high colored when associated with active hyperæmia from turpentine or cantharides; the kidney in such cases presents not only hyperæmia, but also degeneration of the epithelium. It is the latter change which causes the albuminuria. *Passive hyperæmia* involves degeneration of the epithelium as a result of malnutrition by venous blood, the urine becoming scanty as well as albuminous. If the circulation be in any way improved, so that sufficient arterial blood is brought to the epithelium to nourish it properly, the urine soon ceases to be albuminous, and its quantity returns to the normal standard. *Anæmia* causes a similar degeneration of the renal epithelium from malnutrition by blood of poor quality; hence albuminuria often occurs in anæmia, disappearing again as the general health improves. Nussbaum ligated the renal artery for half an hour, rendering the kidney bloodless during that time. On allowing the blood to circulate again, he found the urine temporarily albuminous; the epithelium had degenerated during the period of suspended nutrition, and permitted the transudation of albumin until the fresh supply of arterial blood had restored its normal structure.

Certain substances cause albuminuria in the process of being excreted by the kidneys, probably by involving degeneration of the epithelium. Instances of this are the excretion of biliary principles in jaundice, and the excretion of iodide of potassium when that drug is being taken in large quantities. Under both these circumstances, casts, as well as albumin, are commonly found in the urine. Many other substances cause temporary albuminuria in the process of being eliminated by the kidneys; it is not improbable that the albuminuria which is occasionally present with urines of high specific gravity is due to some temporary degeneration of the epithelium which attends the elimination of an excessive proportion of solid constituents. This would be analogous to albuminuria produced in the course of *diabetes mellitus*. It is not within the scope of this paper to discuss the degenerations of the renal epithelium which occur in the various forms of so-called *nephritis*; to do that would open up many questions as to the pathology of inflammation. One more proposition, however, must be stated in this connection—that is, the possibility of partially digested food-albumin being eliminated by a sound kidney and producing a deposit with heat and nitric acid. The probability of such an occurrence is suggested by an experiment which shows that, if undigested egg-albumin, diluted with water, be injected into the cellular tissue, or into a vein, it is not assimilated, but is eliminated by the kidney,

and can be recovered from the urine. It may be objected that imperfectly digested food-albumin would not, in the first place, be sufficiently osmotic to be absorbed by the digestive organs. However that may be, all authorities admit that albumin may be present in the urine of health after a meal of eggs, just as glycosuria may follow eating an unusually large quantity of candy. As a result of these considerations it may be stated that degeneration of the renal epithelium, variously caused, and varying as to degree and duration, is the cause of albuminuria in nearly all cases. Variations in the renal circulation do not cause albuminuria, except by first affecting the integrity of the epithelium. There is some evidence which goes to prove that imperfectly digested food-albumin may appear in the urine, and yield a deposit on testing.

This paper will confine itself to the discussion of true albuminuria, of renal origin, and will not touch upon the various forms of false albuminuria due to admixtures of blood, pus, etc. The following is an abstract of some of the literature which has appeared on the subject of true renal albuminuria occurring in health. Uitzmann,* in 1870, reported eight cases of albuminuria occurring in young men in perfect health. The daily quantity and specific gravity of these urines were normal, and no casts or blood corpuscles were ever found; the quantity of albumin was at times considerable. In one instance the albuminuria abruptly ceased after having persisted under observation for two years; no cause could be ascertained for the occurrence of the albuminuria in this case, and its sudden cessation was equally problematical. The patient was at all times in good health, and no change of habit could be assigned as a cause for the disappearance of the albuminuria. In another of these eight cases albumin was only to be found in the urine passed at bedtime, at which time it was particularly concentrated. Sir William Gull,† in 1873, reported a number of cases of albuminuria occurring in anæmic girls at puberty. He desired to call attention to this condition as of common occurrence. The patients presented no other renal symptoms, and all recovered as they became stronger. Moxon,‡ in the "Guy's Hospital Reports" for 1878, reports nineteen cases of chronic albuminuria in children, without other signs of renal disease. Albumin was frequently absent from the urine of these patients for hours; it was most likely to be present after breakfast. All the patients recovered. An Italian author, by name Marcacci,§ reported in 1878 that he could cause albumin to appear in his own urine by exercising with his arms sufficiently to raise his pulse to 115 beats a minute. His urine was never albuminous except after exercise. George Johnson, in the "British Medical Journal" for December 13, 1879, states that albumin without casts is frequently found in the urine of people who believe themselves to be in perfect health. Such albuminuria is apt to be transient and intermittent, and is more frequently present in the afternoon, especially after exercise, hearty eating, or a cold bath. Dr. Johnson be-

* Uitzmann, "Wiener med. Presse," 1870.

† Sir W. Gull, "Lancet," 1873, i, p. 808.

‡ Moxon, "Guy's Hosp. Reports," xxiii, 1878, p. 223.

§ Marcacci, "L'Imparziale," 1878.

believes that albumin might be found in the urine of most people who bathe at the sea-shore and remain in the water until they are blue and shivering. He believes that such albuminuria is a warning against the habit which produces it, and argues warmly against its being considered a trivial matter. Leube* found, among 114 soldiers in good health, albuminuria without casts or blood in 14, after a march. M. P. Fürbringer,† in the "Zeitschrift für klinische Medizin," reports the case of a young doctor whose urine became albuminous under the influence of anxiety and fear. Exercise or food produced no effect in this case. The same author examined 61 children between three and six years of age, and found albuminuria in seven. This albuminuria was in some cases absent for days or weeks, returning without apparent cause, and most frequently present during the afternoon. These children were in an asylum, and were all considered to be in good health. Their daily life was regulated by discipline, and they ate the same food and at the same hours. The urines in which albumin was found presented all variations as regards specific gravity, and were sometimes acid, sometimes alkaline. Henri Leroux,† in the

† Leroux, H., "Revue mens. de méd.," March, 1883.

"Revue mensuelle de médecine" for March, 1883, gives the results of examining 118 little girls and 212 boys in an asylum, all of them being in good health. In these 330 children he discovered albuminuria in 19—10 girls and 9 boys. In 14 of the 19 cases albumin was frequently absent, and when present was found only between one and three in the afternoon, following the principal meal. None of these children with albuminuria were sick, and all were eventually discharged from the asylum in apparently good health. Dr. Munn, in the New York "Medical Record" of March 22, 1879, reports 24 cases of albuminuria accidentally discovered in the course of 220 examinations for life insurance. Half of these applicants for insurance were under forty-five years of age, and all believed themselves to be in perfect health. Repeated examinations were made in these cases, and in two instances casts were found. All the 24 applications were rejected simply because of the albuminuria, the persons being otherwise in good condition.

Finally, H. Senator, in a work on albuminuria published in Berlin in 1882, advances the view that albumin is present in small quantities even in normal urine. This theory is similar to that of Brücke, who maintains that sugar in very small quantity is present in normal urine. In normal urine, however, neither albumin nor sugar is ever present in sufficient quantity to be revealed by the ordinary tests.

This short *résumé* of literature bearing upon the subject shows that a large number of excellent authorities are agreed as to the occurrence of albuminuria in health. In nearly all the cases cited no cause could be discovered. In a small minority of cases anemia at puberty, exercise, cold bathing, eating largely of animal food, and mental strain and anxiety were believed to be efficient causes.

The frequent occurrence of *albuminuria at puberty* has been especially insisted upon by Sir William Gull, as quoted above. The albuminuria which often attends anæ-

mia, both at puberty and at other times, is probably due to degeneration of the renal epithelium from malnutrition by impoverished blood. This is entirely analogous to the changes in the capillary walls upon which depend the dropsy and hæmorrhages which are observed in very severe anemia. This view is supported by the experiment of Nussbaum, which shows that temporary ligation of the renal artery causes epithelial degeneration, and is followed by temporary albuminuria.

It is held by many authorities that *albumin often appears in the urine of healthy people after violent exercise*, especially when the exercise has been closely followed by a cold bath. To test the truth of this view, the author has several times examined the urine of twenty-four healthy men, passed after prolonged active exercise followed, in most cases, by a cold shower bath. In none of these twenty-four cases did albumin appear. The following case is interesting in this connection: A gentleman was examined for life insurance and refused, because his urine contained casts and albumin. Two months afterward he was induced by an agent to make an application to another life-insurance company; his urine was examined and found normal. When on the point of being accepted, the gentleman very frankly confessed to the insurance examiner that he had been refused by the first company on the ground that his kidneys were not healthy. Three times more his urine was examined, and still always found normal. A fifth examination was made of some urine which he passed after a boxing lesson and a cold sponge bath; this specimen was found to contain a considerable quantity of albumin and some granular and fatty casts.

Being now alarmed about himself, although apparently in good health, the gentleman consulted a number of prominent authorities, who all agree that his urine never contains anything abnormal except when he has been taking violent exercise. It then almost invariably contains a considerable quantity of albumin and numerous granular and fatty casts. The authorities consulted by this gentleman have scarcely known what to tell him in the way of prognosis. He feels very well, and only time can show whether he is the subject of a developing *nephritis*, or whether his trouble is merely some condition of the kidney which is excited by exercise but is not incompatible with the continuance of health. This subject needs the careful study of years to settle the question absolutely, but the evidence at hand certainly shows that in a *vast majority of cases albumin is not found in the urine of healthy men after exercise*. The question, therefore, assumes the following form: If fifty men in apparently good health take the same exercise, and albumin subsequently appears in the urine of one of them, the urine of the rest remaining normal, shall the exceptional case be considered to be one of latent disease, or of variation within physiological limits? In the light of our present knowledge, the theory of latent disease seems more probable, and life-insurance companies do not hesitate to refuse applicants who suffer from albuminuria after exercise, even though they be otherwise in good health.

All books upon the urine contain the statement that *albumin may be present in the urine of health after a meal of*

* Leube, Virchow's "Archiv," Bd. lxxii, p. 146.

† Fürbringer, M. P., "Zeitschrift f. klin. Med.," i. p. 346.

eggs. The author has made several examinations of the urine of seventeen healthy men, passed after a meal of eggs. The eggs were in some cases raw, and as many as four were eaten at a meal. In none of the seventeen cases was albumin found in the urine. In the course of these investigations the author found a young physician whose urine contained albumin after eating eggs. On further examination, however, it was discovered that the albuminuria was constant, whether eggs were eaten or not. This case has been under observation for three weeks, and the albuminuria still continues; it has even persisted when no nitrogenized food had been eaten for twenty-four hours. The doctor meanwhile feels perfectly well, and his only symptom is a desire to examine his own urine five or six times a day.

The authorities quoted in this paper prove that cases are not very rare in which albuminuria occurs without other evidences of disease; and that in such cases the albumin is most apt to be present in urine passed after eating, or after violent exercise. While the presence of good health seems to indicate that such albuminuria may be due to mere functional disturbance of the kidneys, yet it must not be overlooked that the symptoms of Bright's disease are mainly due to *renal inadequacy, and not to the local organic disease*. In disease of the kidneys, as in valvular heart disease, no striking symptoms are present until the organ is overcome and fails to perform its function completely. The possibility of slight renal affections, not sufficient to produce inadequacy in any degree, seems to have been too much ignored. The kidney has been studied too exclusively in connection with grave diseases which endanger life, and become conspicuous by virtue of the uræmic symptoms which attend them. The following case illustrates the sudden occurrence of a mild attack of *nephritis* without symptoms: A physician was exposed to a draught of air, and suffered the next day from coryza and some lumbago. Another physician, hearing him complain that his back was stiff, jestingly challenged him to examine his urine and make sure that the pain was not a symptom of Bright's disease. The urine was examined, and, to the surprise of both, contained considerable albumin and numerous hyaline casts, with a few epithelial casts. The physician, although startled, took no precautions, and attended to business as usual. The cold was well in four days, and at the same time the albumin and casts disappeared from the urine. In this case the symptoms were those of an ordinary cold, and would not have attracted attention under any other circumstances than those mentioned. The physician has since that time repeatedly examined his urine, but has never discovered anything abnormal. Five years have elapsed, and he is in perfect health. An instance of *mild chronic nephritis* is the following: A boy suffered from *scarlatinal nephritis*, but made a good recovery. A year or two afterward his urine was examined and found to contain albumin. The boy grew up and became a medical student. During seven years his urine continued albuminous under observation. Albuminuria was absent in the morning, before breakfast, but appeared after eating and during the afternoon. During all this time the young man was well, and worked hard at his studies. At the end of the seven years the albuminuria

ceased, and has not reappeared during the last five years. In this case albuminuria was present only after eating, and yet was evidently due to organic disease, as is shown by the history. These two cases—one acute and the other chronic—are good examples of mild renal affections not disturbing the general health, and tending toward recovery. When the possibility of mild cases of renal inflammation or degeneration is considered in connection with the inability of nearly all healthy men to produce in themselves albuminuria by exercise or diet, it seems probable that the so-called albuminuria in health is due rather to some form of kidney disease too slight to produce general symptoms. A man who has albuminuria after exercise may, perhaps, be compared with one who has hæmoptysis under the same circumstances. The latter may not die of phthisis, nor the former of Bright's disease; both may outgrow the tendency, yet, so long as it continues, neither can be looked upon as a thoroughly sound man.

INTRA-UTERINE INJECTIONS IN PUERPERAL SEPTICÆMIA.*

By LOUIS A. RODENSTEIN, M.D.

WITHOUT desiring to enter into the discussion concerning the use of vaginal or intra-uterine injections as a prophylactic measure after normal labor, I wish to put upon record the five following cases which have occurred in my practice during the past ten months.

They demonstrate conclusively the value of intra-uterine injections in cases of childbed fever, and consequently serve to establish the theory of the septic origin of the disease.

CASE I.—Mrs. K., aged twenty-two, a primipara, was confined March 27, 1883. The head presented, labor was prolonged for twenty-four hours, and she was delivered with the forceps, the child weighing nine pounds and a quarter. The perinæum was not ruptured, the placenta was expelled intact, and the uterus contracted well. Within an hour after delivery she had a severe hæmorrhage, and I introduced my hand and emptied the uterus of clots. I gave ergot and morphine to control the hæmorrhage, and left the patient comfortable.

All went well to all appearances till the night of the 30th (three days later), when the patient had a severe chill, and on the following morning I found her with a high temperature (105° F.), quick pulse (150), flushed face, and very excited state of mind. The lochia had stopped. Ordered vaginal douches of carbolized water, 2½ per cent., night and morning, and five grains of quinine every four hours.

The following morning (April 1st) the temperature was still 105°, the pulse 150, the respiration 46, tongue dry, and she had been delirious during the night; treatment continued. At noon the temperature was 106°, the pulse 160, the respiration 49, with pain and tympanites in the abdomen; ordered poultices and opium. Quinine stopped.

The following morning, April 2d, the temperature was 106°, the pulse 160, the respiration 49. I called Dr. James B. Hunter in consultation, who advised a 2½-per-cent. carbolized intra-uterine injection. This was adopted at once, with prompt amelioration of the symptoms, and was faithfully carried out by Dr. James R. Goffe and myself, at intervals of two, three, and six hours, day and night, for six consecutive days.

* Read before the New York Obstetrical Society, February 5, 1884.

As the report of the case from hour to hour is somewhat tedious, I will briefly outline the points of interest: The wash-water gave constant evidence of a varying amount of fragments of broken-down tissue, grayish, flocculent material, and pus. As the temperature continued to fluctuate between 104.6° and 105.6°, on the night of April 3d the rubber ice-coil was applied to the abdomen, with the effect of reducing the temperature in two hours and a half from 105.6° to 101°. In spite of the almost constant use of the coil, however, and the frequent injections, the temperature could not be reduced again below 103°.

The presence of abundant débris in the wash-water indicated the probable presence in the uterus of material that could not be washed away (as the temperature still ran high). It was, therefore, decided to explore the uterus with the curette. Accordingly, at 9 A. M. on April 6th, the patient was put in Sims's posture, and with the long, dull-wire curette (which I hold in my hand) I succeeded in removing from the uterus several ragged pieces of decomposing material. After this the patient was placed upon her back and the uterus washed out. The temperature fell promptly from 103° to 99.6°. As the temperature again rose, the injections were continued, the coil was used, and the following day quinine was again resumed, ten grains *per rectum* every six hours.

Two days later, April 8th, the curette was again used and a few small fragments were removed. The temperature reached normal, 98.5°, 4 A. M., April 9th. The injections were continued at longer intervals till April 10th, when they were discontinued and vaginal douches substituted, being used twice each day. The patient took nourishment well during the entire time, consisting of milk, beef-tea, and brandy.

The temperature fell below normal for two days. April 11th the patient had large, greenish, watery discharges from the bowels. I administered bismuth and soda. Liquid nourishment was soon changed to solid food.

And thus ended in recovery a most formidable case of what I considered puerperal septic poisoning. The patient's system was thoroughly saturated with the poison, and the fluctuation of the temperature was due more or less to the working (fermentation) of the septic matter already absorbed. The quinine undoubtedly served to reduce the temperature after absorption had been stopped.

CASE II.—Mrs. H., aged twenty, a primipara, was confined, April 29th, with a cranial presentation. Labor was normal, there was no laceration of the perinæum, and she had every appearance of making a good recovery. On the seventh day after delivery I was called, and found the patient had had a chill three days previous. She had continued fever, a flushed face, a dry tongue, and was very much excited, with a great deal of delirium. There was perfect anorexia; in fact, she had not taken any nourishment for over three days. The usual vaginal washing was neglected. The temperature being 105°, the pulse 150, and the respiration 48, I at once commenced the intra-uterine wash with 2½-per-cent. carbolic solution, and, after only two washings, the temperature became lower.

The patient was the wife of a poor German gardener, and they lived in a little dirty cottage with most unfavorable sanitary arrangements. The mother of the patient acted as nurse, and was instructed to administer milk and brandy liberally every hour during the night. On an early visit the next morning, the uterine washings having been directed to be continued, I found that, as, in the judgment of her friends, she was relieved of her fever and slept so sweetly, she had not been disturbed by either food or stimulants, and had died of exhaustion early in the

morning. The uterine washing evidently checked septic absorption; although but few washings had been used, yet their good effect had been at once shown.

CASE III.—Mrs. I. B. had been confined of her fourth child on November 19th. Her labor was neither a long nor a difficult one; with her third child she had considerable trouble and was torn down to the rectum. She was operated on, but was again somewhat torn. On the fourth day after delivery she had a severe chill and a rise of temperature. Her face was flushed, with some delirium, dryness of the tongue, and suppression of the lochia. I examined and found the os uteri sufficiently open to introduce my finger. I commenced washing out the uterus every six hours, and in forty-eight hours found that the temperature was reduced from 105.4° to 101°, and in twenty-four hours more to normal, so that with sixteen washings I am confident that the course of the disease was stopped, and recovery promptly ensued.

CASE IV.—Mrs. I. V. I was called to her bedside December 14th, to attend her during her tenth confinement, and found an old midwife in attendance. She had delivered her of a still-born male child, and, after waiting a little time for the placenta to come away, she pulled on the cord and tore it from the placenta, and then I was sent for. In making an examination, my finger came in contact with a second child, which I extracted, and then found a third one—all males and still-born. After removing three distinct placentas, I left the woman comfortable.

On the third night she had a severe chill, with fever and delirium.

December 18th,	9 A. M.,	temp.	105.2°,	pulse	155,	resp.	48.
"	"	1 P. M.,	105.2°,	"	150,	"	48.
"	"	11 P. M.,	104.4°,	"	150,	"	46.
"	19th,	9 A. M.,	102.8°,	"	140,	"	41.
"	"	1 P. M.,	103°,	"	140,	"	41.
"	"	12 M.,	101.5°,	"	120,	"	38.
"	20th,	9 A. M.,	103.4°,	"	130,	"	38.
"	"	12 M.,	102°,	"	120,	"	36.
"	"	11 P. M.,	100°,	"	100,	"	30.
"	21st,	9 A. M.,	100°,	"	100,	"	30.
"	"	11 P. M.,	99°,	"	84,	"	28.
"	22d,	"	98°,	"	70,	"	28.

In this case I washed out the uterus three times a day with carbolic solution, gave five grains of quinine every six hours, and pushed milk, beef-tea, and brandy, just as much as the stomach could bear.

The uterus was washed out about fifteen times, and the patient made a good recovery, although for several days considerable albumin was found in the urine.

CASE V.—Mrs. T., aged nineteen, a primipara, was confined of a female child on the 16th of January, after fourteen hours of labor. As the pains died away, I gave ergot without effect, and was obliged to use the forceps. The perinæum was ruptured slightly, but I did not consider it sufficient to require operation. She seemed to be doing well until the morning of the fourth day, when she was suddenly taken with a chill, and every symptom of septic poisoning presented itself. The fever kept up for only three days.

January 20th,	10 A. M.,	temp.	104.4°,	pulse	140,	resp.	39.
"	"	3 P. M.,	105°,	"	150,	"	43.
"	"	11 P. M.,	104.6°,	"	150,	"	42.
"	21st,	8 A. M.,	104°,	"	138,	"	42.
"	"	1 P. M.,	103.8°,	"	136,	"	40.
"	"	12 M.,	102.6°,	"	120,	"	40.
"	22d,	8 A. M.,	101°,	"	100,	"	30.
"	"	10 P. M.,	99°,	"	90,	"	28.
"	23d,	8 A. M.,	98.5°,	"	84,	"	28.

I commenced with the washing of the uterus at once, and

used antiseptic applications on the lacerated perinæum, to prevent any further absorption, as I recognized at once that this must be one of the points, as well as the uterine cavity, of absorbing the poison. Gave five grains of quinine every six hours. I used in this as well as the other cases the Chamberlain glass tube for the intra-uterine injection.

I would add one point, which I have found in my experience, that where there is septic poisoning the os uteri is invariably sufficiently open to readily admit the finger, and remains open until the poison is eliminated, no matter how many days it may be, while, on the other hand, if the chill, rise of temperature, and other symptoms that might appear to be those of puerperal septicæmia are of a malarial origin, the uterus is contracted and the os is closed, as they should be at that period of the puerperal state.

MISSED ABORTION;

SCLEROSIS OF THE PLACENTA.*

By HENRY J. GARRIGUES, M.D.,

VISITING OBSTETRIC SURGEON TO THE NEW YORK MATERNITY HOSPITAL.

MRS. MARIA F., aged thirty, married ten years, has had five children, the last one having been born two years since. She menstruated last in April, 1883, at an unknown date.

She presented herself on December 4, 1883, stating that she had lost a small amount of blood daily for the preceding four weeks. The size of the womb corresponded to a pregnancy of only four months. No sounds, neither uterine nor fetal, were audible. I diagnosed, therefore, pregnancy, with death of the fœtus. I saw her about once a week after that. The bleeding ceased, and she felt well all the time.

On January 9th, about nine months after her last menstruation, a fœtus and after-birth were expelled with moderate pain and with no loss of blood. The whole came away in one mass and was perfectly fresh.

I take the fœtus to be at the end of the fourth lunar month of gestation, but with partial arrest of development. It measures, from the top of the head to the heel, 18.5 cm. The bones of the skull are ossified, but separated by large sutures and fontanelles. With the magnifying glass I see some small hairs appear on the scalp, but there is no trace of any on the body. The cord is inserted between the lower and middle thirds of the distance between the symphysis pubis and the sternum. The eyelids are distinctly marked, but not yet separated. The sex is female, as seen by the considerable distance from the genitals to the anus, a well-developed vagina, and distinct labia majora and minora.

About the mouth we have, I think, an arrest of development. The slit is very large. The lower lip is so short that it only covers half of the lower jaw, and the upper lip has scarcely begun to be formed. There is a considerable distance between the intermaxillary bone and the maxillary bone, while, according to Kölliker ("Entwickelungsgeschichte," p. 475), the connection normally becomes rather intimate in the eleventh or twelfth week. From the nos-

trils an open passage leads outward and backward into the palate, where the space between the vomer and the maxillary bone is yet open all the way through to the pharynx on the left side, but is closed in its posterior part on the right side. There is even yet seen a remnant of the fissure which during the first few weeks runs between the lateral nasal and the upper maxillary processes up to the eye, in the shape of a little notch pointing from outside the nostrils in the direction of the eyes.

This arrest of development in the palate is not uncommon even in the child born at full term, and forms the well-known malformations called *hare-lip* and *cleft palate*.

The epidermis has to a great extent come off, and forms loose gloves and socks on the hands and feet. The soft parts look much atrophied in proportion to the bony ones.

The placenta is oval, measures 8 by 6 cm., and is mostly composed of a hard, whitish, lardaceous mass. The division into cotyledons has disappeared. The fetal surface of the placenta is normal.

The cord measures in all 20 cm., but the last three centimetres of it run in the membranes and on the surface of the placenta, forming the so-called velamentous insertion.

As to the membranes, we remark that a gelatinous tissue, forming masses as large as soft-shell almonds, is found between the amnion and the chorion.

Of the decidua only a few long shreds are found. The cause of the death of the fœtus is to be sought in the condition of the placenta. Instead of a soft, spongy mass composed of villi chorii bathed in maternal blood, we find a hard, uniform, bloodless, lardaceous mass. This condition has been described by Neumann ("Königsberger med. Jahrb.," ii, 1860; quoted by Spiegelberg, "Geburtshülfe," p. 344) as *sclerosis of the placenta*. It is doubtful whether it is due to an hypertrophy of the villi or to an inflammation of the interstitial connective tissue, but it is supposed to be due ultimately to syphilis.

When the fœtus dies, it undergoes either putrefaction or mummification. In the first case it gives rise to fever, and is soon expelled or must be removed, while in the second condition it may be retained for many months, as in the present case, in which it probably has staid for six lunar months in the uterus.

The dwindling of the soft parts need not be attributed to an absorption of the liquid part of the body after the death of the fœtus. Seeing that scarcely any placental tissue is left, it is more reasonable to suppose that the fœtus was for a long time submitted to gradually increasing starvation, by which its soft parts were reduced in bulk just as in adults deprived of food.

The condition of missed abortion presents several points of practical interest. If the fœtus is decomposed, it is dangerous for the woman, and ought to be removed. If it is mummified, no treatment is called for. As there commonly will be some doubt about the diagnosis, so that there might be a living fœtus in the uterus, it is wise to abstain from any measures which favor the expulsion of its contents.

It is of importance to know the possibility of this condition in order to be able to avert unwarranted suspicions, as when a married woman, whose husband has been absent,

* Read before the New York Obstetrical Society, February 5, 1884.

expels a fœtus which represents a period of development of shorter duration than his absence.

Finally, there may be occasion to treat the woman for uterine disease, or, perhaps, both her and her husband for syphilis.

Clinical Reports.

ROOSEVELT HOSPITAL.

CLINICAL REMARKS BY HENRY B. SANDS, M. D.

Heaton's Operation for Hernia.—Excision of the Hip Joint.—Internal Urethrotomy.

CASE I.—This man, gentlemen, has an inguinal hernia, and came to the hospital to be treated by what is called Heaton's operation for a radical cure. On February 4th I injected alcohol into the inguinal canal, and have injected it once since, on the 14th of this month (February). There seems to have been very little reaction set up by the alcohol, and, as the man is in haste to get away from the hospital, I have decided to use the preparation which is recommended by Heaton. This consists of a mixture of the solid extract of white-oak bark and of the fluid extract of the same substance, to which is added a small quantity of morphine. The morphine is added to diminish the pain caused by the injection. This substance causes more irritation than alcohol does, and therefore it is expected to work a more speedy cure in cases which are curable at all by such methods. In operating, it is impossible to say with certainty whether you can reduce the sac or not. The probability is that, unless the hernia is very recent, the sac is not reducible. As to the performance of the operation, it is simple enough, although care is required that the hernia may be pushed back. This can be done with the finger of the right hand introduced into the external ring, invaginating the integument. The forefinger of the left hand is then placed over the external abdominal ring, as nearly in a vertical position as possible, and the spermatic cord is crowded to the inner side. Using the left forefinger as a guide, the hypodermic needle is made to penetrate the tissues lying along the inguinal canal, and, when it is certain that the inguinal canal has been reached, the direction of the needle must be changed, so as to carry it upward and outward toward the internal abdominal ring. Having reached that situation, begin to inject the fluid by pushing the piston down, and, as you force the fluid out, vary the situation of the point of the instrument so as to cause the fluid to come into contact with a considerable quantity of the connective tissue which surrounds the sac. That is the principle of the operation, and it is expected that the injection shall not be made into the sac nor into the peritoneal cavity. Whether the injection ever passes into the peritoneal cavity is not known. At any rate, peritonitis, fortunately, does not result from the operation. I am going to use to-day Heaton's instrument, which is different from the one which you have seen me use heretofore. The point of the needle is a little blunt, and is therefore less likely to penetrate a vein and cause an injection of the fluid into a blood-vessel. The perforation of the needle is about an eighth of an inch from its point.

The patient should be kept in bed a week or ten days after the operation, and, when allowed to get up, he should wear a truss. The operation in this young man's case is not performed with the expectation of obtaining a radical cure of his hernia. That result is very rarely obtained, and only in the case of very

small hernia. But it is done in the hope of so far reducing the size of the aperture through which the hernia passes as to make it easy for him to obtain a truss which will prevent the descent of the hernia while he is at work. This man has been treated by good truss-makers, but they have not succeeded in providing him with a truss which will defend him against a protrusion of the hernia. Therefore he is hindered in his work and subjected to the risk of strangulation. It has been found by Dr. Bull and by Dr. Weir, as well as by others who have had a pretty extensive experience with this operation, that it is capable of conferring this benefit of enabling the patient to wear a truss with success, whereas previous attempts to do so have been unsuccessful.

While the next patient is being etherized I may report to you concerning a little boy who was here three weeks ago, and underwent the operation of excision of the hip joint, and about whom we felt grave apprehensions, as his condition was then very unfavorable. He had no severe symptoms or shock after the operation, and, with the exception of a rise of temperature for the first two days, there has been nothing to report except that he has done well. The discharge has diminished, the boy is able to eat and play in bed, and he has a very fair prospect of recovery from this operation, as he recovered from a similar operation upon the other hip a few months ago.

CASE II.—Another patient with hip disease, which will probably require excision, is about to come into the room for examination. He is a feeble little boy, four years of age, with a very large head, which is possibly hydrocephalic. He came in here for the first time on the 2d of January, 1883, and has recently been readmitted. Some time ago he fell out of bed, striking on his left knee, and from that time he limped. At the end of May a plaster-of-Paris splint was applied in the outpatient department. He re-entered the hospital on the 12th of June, when the left limb was found to be shorter than the right, the diseased limb being adducted and flexed on the pelvis. There was pain on motion and on pressure over the trochanter. The gluteal fold was nearly effaced. These symptoms of hip disease were treated by extension made by a five-pound weight strapped to the foot. This treatment was pursued until September, when it was discontinued, and a plaster-of-Paris splint was put on to immobilize the limb. The patient left the hospital on the 10th of September, but was treated in the out-door department until the time of his readmission, on the 22d of February. Two months ago an abscess formed in the neighborhood of the neck of the femur. It was opened, and since the operation the patient's general health has improved. The urine contains phosphates, and is alkaline; it contains no albumin.

This is an ordinary case of hip disease as to history, and probably as to pathological lesions. The head of the femur is carious, and it is very likely that the acetabulum is also diseased. Absence of crepitation is no proof that the articular cartilage has not been destroyed, because frequently crepitation is prevented either by the limitation of the disease to one of the articular surfaces, or by the presence of granulation tissue, which often exists. The attitude of the limb is characteristic; it is flexed and adducted, and there is apparent shortening. The measurements which were made the other day did not show much real shortening of the left, or affected, limb, but such measurements are very unreliable, because made under unfavorable circumstances. It is difficult to bring both sides of the pelvis on the same level, and the measurements are vitiated by abduction and adduction of the limb.

The occurrence of an abscess almost certainly points to hip-joint disease. Even if the abscess did not apparently communicate with the joint, it was probably articular in the beginning. When the disease has advanced to the stage of suppuration and

tubercular deposits have invaded the bone and the synovial membrane, there is very little hope from any means except excision.

Now that the child is under ether, I immediately, on moving the joint, discover crepitation, which demonstrates erosion of the bony surfaces composing the joint. I shall open the articulation by making a curved incision with its convexity backward, commencing above the trochanter, running behind that process, and then forward. I find, on dislocating the femur, and dividing the bone well down through the great trochanter with the chain-saw, that the tissue is pretty firm at the point of section; and that is encouraging. There is slight erosion of the acetabulum, which, however, is not perforated. The disease seems to be located near the margin rather than in the central part of the acetabulum. I think I have now removed all the carious bone, and I think the case is likely to do well. I shall dust the wound with iodoform, after having washed it out with the bichloride solution through the two drainage-tubes which have been inserted, and then apply an absorbent dressing. After twenty-four hours, an extension apparatus of a weight of two or three pounds will be applied.

I now show you the two patients who were operated upon a week ago for varicocele. In both cases, you may remember, I used a stout catgut ligature, and applied a suspensory dressing of iodoform gauze. Neither of the patients has been ill since the operation; there has been no fever and no suppuration. Instead of the soft and compressible mass of veins which existed at the time of the operation, a hard mass is now felt, nearly an inch in diameter, which is due to plastic deposit. Probably the patients would do perfectly well without another dressing, but, as a matter of precaution, the dressing will be renewed. Had I done the operation by almost any other method than the one which I adopted, it would have been followed by suppuration.

CASE III.—The case now before us is one of considerable interest of its kind, the patient having been treated for urethral stricture in this hospital some years ago, and having passed through a good many attacks of urethral fever and abscess which threatened his life. He is from Massachusetts, a boatman, fifty-seven years of age, who re-entered the hospital on the 11th of this month. A brief abstract of his history shows that he has had three attacks of gonorrhoea. He also had a stricture which caused retention of urine, and a perineal abscess. My colleague, Dr. Weir, performed both internal and external urethrotomy. No guide could be passed into the bladder before the perineal tissues were divided. After the operation the patient had fever and chills, was extremely prostrated, and remained for a long time in a precarious condition. After leaving the hospital he continued to have a slight discharge from the urethra. He passed a sound (21 French) for a time, but has not continued regularly in the use of it, as he was advised to do, and there has occurred what is a common event—namely, a recontraction of the stricture. He came into the hospital on the 11th inst., with redness and swelling of the testicle, and pain in the perineum. An opening formed midway between the scrotum and the anus, through which about one half of the urine now escapes. On one occasion I was able to pass a filiform bougie through the strictured urethra into the bladder, but, when the attempt was again made, no instrument whatever could be passed. It is proposed to-day to perform internal urethrotomy, provided the urethrotome can be introduced.

After distending the urethra with oil and introducing several filiform bougies, I have at last been able to pass one on into the bladder, and also the metal guide of Maisonneuve's instrument, which follows it. In introducing the latter, great gentleness should be observed, as I have known a careless operator to make a false passage into the rectum. The cutting instrument

will now be passed, dividing the strictures, which are found to be very numerous and tight. Notwithstanding the largest cutting blade has been employed, the urethral walls are still rigid. I am able, however, to pass a silver catheter (No. 19) into the bladder, and to withdraw a few ounces of urine which it is found to contain. The patient will be confined to his bed for the present, and no instrument will be introduced into the urethra before the lapse of a week.

Book Notices.

On the Discovery of the Periodic Law, and on Relations among Atomic Weights. By JOHN A. R. NEWLANDS, F. I. C., F. C. S., Member of the Society of Public Analysts, etc. London: E. & F. N. Spon, 1884. Pp. viii-39.

This little book is simply a republication of the different papers contributed by the author to various scientific periodicals since 1864, all tending to support his claim to priority in the discovery of the law of the inter-relation of the elementary atomic weights, which usually goes under the name of Mendeleeff's law. Apart from any historical importance which may be attached to these lucubrations, they are of some psychological interest as showing the successive phases which an hypothesis may assume in the mind of its promulgator during the process of its evolution.

The Cinchona Barks Pharmacognostically Considered. By FRIEDRICH A. FLÜCKIGER, Ph. D., Professor in the University of Strasburg, etc. Translated from the Original Text, with some Additional Notes, by FREDERICK B. POWER, Ph. D., Professor of Pharmacy and Materia Medica in the University of Wisconsin. With eight lithographic plates and one woodcut. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 101. [Price, \$1.50.]

A MONOGRAPH which comprises about all that is known in regard to the cinchona bark offers little material for criticism. Especially is this the case when the compilation is made by a man so competent as Professor Flückiger. The book contains, in fact, a description of the varieties of the plant, and their differential botanical diagnosis; their habitat; the methods of their cultivation and of the collection of the barks; the structure and chemistry of the latter, including an account of the chemistry of the various alkaloids; and an historical review of the subject of "cinchonology," with a copious bibliographical index. Some important additions have been made by the translator in regard to the quantitative estimation of the alkaloids. The work is of sumptuous appearance and elegantly illustrated.

Some Account of Cardiac Aneurysms. Being the Bradshawe Lecture, read before the Royal College of Physicians of London on August 18, 1883. By J. WICKHAM LEGG, Fellow of the College. London: J. & A. Churchill, 1884. Pp. ix-75.

This is a masterly dissertation, and includes descriptions of all the lesions, as found in the left ventricle (the most common), the right ventricle (rare), the left auricle (nearly all general aneurysms of the auricle), the right auricle (very infrequent), the muscular septa (of the auricles, one case; of the ventricles, not at all common), the "undefended space" (exceedingly interesting to the anatomist and to the pathologist), the valves of the heart, and the cardiac coronary arteries. The lecture occupies fifty-seven pages, and is followed by a bibliography. Speaking of the causes of aneurysm of the left ventricle, the author

gives an interesting and concise description of two forms of myocarditis, or fibrous degeneration, and contests the view, advanced by Virchow, that they are due to syphilis.

BOOKS AND PAMPHLETS RECEIVED.

Treasury Department. Annual Report and Statements of the Chief of the Bureau of Statistics on the Commerce and Navigation of the United States for the Fiscal Year ended June 30, 1883. Foreign Commerce. Washington: Government Printing Office, 1883. Pp. lxxvi-902.

Quarterly Report of the Chief of the Bureau of Statistics, Treasury Department, relative to the Imports, Exports, Immigration, and Navigation of the United States, for the Three Months ended September 30, 1883; also containing Other Statistics relative to the Trade and Industry of the Country. Washington: Government Printing Office, 1883. Pp. iv-133.

Correspondence.

LETTER FROM WASHINGTON.

The Proposed Fireproof Building for the Army Medical Museum and Library.—Homoeopaths' Aspirations.—Sanitation and the Customs Service.—The Health Officer of Calcutta on Cholera.—The Bureau of Animal Industry.

WASHINGTON, June 16, 1884.

SINCE my last letter the Senate has passed without debate the bill providing for a fireproof building for the Army Medical Museum and Library. It is understood that plans have already been prepared for the erection of the building. In case the House concurs in the action of the Senate, we may hope soon to see this superb monument of the liberality of the nation in more fitting quarters.

The homoeopathic sect are bestirring themselves to induce Congress to concede them representation in the Army, the Navy, and the Marine-Hospital Service. Petitions have been presented in the Senate from New York, Illinois, Ohio, New Jersey, Kansas, Georgia, and Michigan, praying for the recognition of the sect, and setting forth that they are now debarred from appointment into the public service. The petitions have been referred to the Committee on Civil Service and Retrenchment.

The Treasury Department has published at length the opinion of the Attorney-General relative to the rights of inspectors of customs at local quarantines, from which it is concluded that the Government has a peremptory right to protect the public revenue by stationing an inspector at the quarantine, and such officer must subject himself to the necessary quarantine regulations.

Surgeon-Major McLeod, the health officer of Calcutta, has made his quarterly report to the "Chairman of the Corporation of the Town of Calcutta," under date of April 12, 1884, and in that report he mentions Koch's experiments in the search of the cholera bacillus, which are highly interesting as viewed from a local standpoint.

"In the preceding quarter, cholera had broken out severely in October, abated in November, and reached a very low level in December. The abatement reached its minimum in January, which presents a more favorable result than any January of which a record exists. In February, however, the disease began to resume its wonted dimensions. Throughout the month of March a steady rise took place, and the total of this month is higher than that of any March since the year 1869. The year

that comes nearest to it is 1876, with three hundred and twenty-four deaths. The total, though unprecedented in recent years, is still considerably below the mean of years preceding 1870. This large and sudden rise of cholera has been coincident with an unusual absence of rain and a prolonged drought. The disease commenced to increase when the weather began to get warm, and with the change of monsoon a decided advance was observable, which has been progressive up to the close of the quarter. The absence of rain implies increasing impurity of tanks and wells, owing to subsidence and evaporation. It means also a gradual drying up of filthy drains and cesspools; when this drying up is complete, the filth gets pulverized, and is converted into dust, which fills the lower strata of the atmosphere of the town and enters the lungs and stomach along with the air that is breathed and the water and food. Moreover, the prolonged drought causes subsidence of the soil water, and various decompositions take place in soil recently soaked, which are now recognized as conditions of grave peril to health. The detection by Dr. Koch (who was deputed by the German Government to inquire into the causes of cholera, and prosecuted his researches in our midst during the last cold weather) of a micro-organism or bacillus which is invariably found in the intestinal canal of persons laboring under the disease, and in no other disease, is a notable incident belonging to the sanitary history of the period under report. Dr. Koch also found this same comma-like bacillus in the waters of a tank at Ballighatta, in the suburbs around which cases of cholera had occurred. Whether this organism is the cause of cholera, and whether it existed in the tank before the cholera commenced in its neighborhood, or found its way into it along with the excreta of the sufferers, are questions which must be settled by further research. But, whatever may be the special and immediate cause of cholera, it seems certain that the conditions above specified profoundly assist in the development of the disease; and a larger supply of pure water, a better system of conservancy and drainage, and the filling up of tanks and wells, must still be looked upon as the principal means of reducing the incidence of the disease. I may likewise record here the fact that Dr. Richards, Civil Surgeon of Goulundo, has proved by experiment that cholera excreta are, under certain circumstances, fatally poisonous to pigs. Dr. Koch failed, both in Egypt and in Calcutta, to impart the disease to animals, either by means of the crude discharges or pure cultivations of bacillus. Dr. Richards's success in poisoning pigs with cholera evacuations opens out an additional field for research."

The act providing for "the establishment of a bureau of animal industry, to prevent the exportation of diseased cattle, and to provide means for the suppression and extirpation of pleuropneumonia and other contagious diseases among domestic animals," became a law on May 29, 1884. The objects of the law are apparent in the somewhat voluminous title given it, and the work is to be done by a veterinary surgeon, who is to be the chief of the new bureau, and act under the general direction of the Commissioner of Agriculture. The cattle quarantines are distinctly retained under the control of the Treasury Department, so far as exportation or importation is concerned. When it becomes necessary to quarantine diseased cattle on a farm in the interior, the Commissioner of Agriculture is empowered to act. Special investigations into the causes of contagious diseases among the domestic animals are also to be conducted. A heavy penalty is placed upon railroads and other common carriers in case they are convicted of transporting diseased animals from one place to another. This law ought to have the effect of showing to foreign countries interested that the Government is in earnest in the attempt not only to prevent the exportation of diseased meat, but to prevent the disease as well.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 21, 1884.

A PARADISE FOR ABORTIONISTS.

THE June number of the "Columbus Medical Journal" contains a timely and vigorous article exposing the rottenness of the safeguards which the good people of the State of Ohio may be presumed to suppose they have set up against the revolting crime of abortion. It seems that accepted judicial expositions of the statutes of the State are to the effect that criminal abortion is not homicide, even when it results in the death of the woman, and, therefore, that the victim's dying statement is not competent evidence against the accused, since ante-mortem statements are valid evidence only in cases of homicide. Moreover, corroborative testimony will not answer, if we may reason from an instance given by our contemporary, for then the presumption is that the victim really took measures herself which proved effective, and the abortionist was only "called upon to treat her in a purely professional way, but with unfortunate results." Virtually, the law seems to hold criminal abortion as an offense against the fetus only, and, even at that, the prosecution must prove that the fetus was living at the time the act was committed.

The journal alluded to quotes from a judge's charge to illustrate several of the points in question. The charge contained the following passage: "Before you can convict the defendant, the State must satisfy you from the evidence, beyond a reasonable doubt, that the said ——— was a pregnant woman, pregnant with a living fetus or child; that the defendant, ———, did, with intent to procure an abortion in and upon the body of ———, use an instrument to produce a miscarriage, and, in consequence of the use of said instrument, the said ——— either miscarried or died, and that such miscarriage was not necessary to preserve the life of the said ———, and was not advised by two physicians." In other words, criminal abortion is not a punishable offense under the laws of Ohio, unless the product of conception is proved to have been living at the time of the act; the death of the woman counts for nothing.

Such being the facts, it must be conceded that it is well nigh impossible to procure a conviction for abortion in Ohio, but we trust that our contemporary is mistaken in its gloomy forecast that the laws will probably not be changed. "While it would be hardly fair," it says, "to say that public opinion approves of the abortionist, it is certainly speaking within bounds to say that it does not condemn him; the public conscience has ceased to be offended by him. The doctor who, at the request of his patient, uses his knowledge to relieve her of that which she does not desire to retain, is held by the mass of the community as scarcely more blamable than the merchant who, in the routine of business, sells a weapon that afterward becomes an instru-

ment of death." That is the view too apt to be taken by the unthinking everywhere, but we can not believe that the people of Ohio, if once they were made to comprehend the bearing of the facts, would suffer such sophistry to pervade their laws. The "Columbus Medical Journal" can do its community no better service than by instructing it in regard to the heinous nature of criminal abortion. That task accomplished, we may surely trust the virtue of the State to set the statutes right.

MEDICATION OF THE FÆTUS.

THE question of the extent to which drugs administered to the mother during gestation are capable of affecting the fetal organism has often been made the subject of discussion and experiment. What seems to us a most important contribution to our knowledge of the matter has lately been made by Dr. G. Krukenberg, an assistant physician at the gynecological clinic at Bonn, in the form of a communication to the "Centralblatt für Gynäkologie." Substances of ready diffusibility, such as iodide of potassium, have often been found in the contents of the fetal stomach after having been given to pregnant animals, but heretofore the fact has been accounted for on the theory that they first entered the liquor amnii, and gained access to the stomach of the fetus only by the latter's swallowing some of the amniotic fluid. In some instances, however, Dr. Krukenberg has found the reaction of iodide of potassium in the contents of the stomach when neither the liquor amnii nor the fluid between the amnion and the chorion responded to the tests for that substance. He concludes, therefore, that that salt and, presumably, other highly diffusible substances really pass into the fetal circulation from the maternal blood in greater quantities than is commonly supposed, and that they are excreted by the stomach, for in other parts of the fetal organism only traces of them are to be found.

Many of our readers will perhaps remember that, a few years ago, the question of the danger of narcotizing the fetus by the administration of opiates to the mother was debated before the New York Obstetrical Society, and that the discussion fell short of settling the matter. After that, Professor Bollinger gravely advocated the practice of ante-natal vaccination. It will be seen, therefore, that the facility with which medicaments pass from the maternal to the fetal system is noteworthy from a practical point of view.

MINOR PARAGRAPHS.

THE AMERICAN NEUROLOGICAL ASSOCIATION.

ALTHOUGH the programme for the tenth annual meeting is not so extensive as those of some of the national medical societies at their recent meetings, it includes matters of great interest to the profession at large as well as to specialists in neurology. The progress made in that department of medicine of late, indeed, quite justifies the opening remarks made by Dr. Morton on calling the meeting to order. The proceedings at the afternoon session on Wednesday will be found in our society reports, and next week we shall give the concluding portion of the proceedings. The president's address was a scholarly production, eminently appreciative of the bearing of matters that lie at the

base of the science of neurology, and we can not doubt that the election of Professor Wilder as the president for the ensuing year was meant not only as a graceful tribute to a distinguished worker in the field of physiological anatomy, but also as a token of the stress that the association lays on that fundamental branch of investigation.

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 17, 1884:

DISEASES.	Week ending June 10.		Week ending June 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	7	1	4	0
Typhoid Fever.....	15	3	8	6
Scarlet Fever.....	72	7	65	12
Cerebro-spinal meningitis...	3	3	4	4
Measles.....	148	25	92	14
Diphtheria.....	53	26	37	23

A QUARANTINE ON THE MEXICAN FRONTIER.—A press dispatch announces that quarantine was established on the 15th inst. between Brownsville and Matamoras, both of which places are reported as at present free from yellow fever.

PHYSICAL EDUCATION AT BROWN UNIVERSITY.—At the recent alumni meeting, Dr. W. W. Keen, of Philadelphia, of the class of 1859, presented a resolution looking to the establishment of a gymnasium in connection with the university. The resolution was received with favor, and there is reason to think that the gymnasium will be provided shortly.

THE ADULTERATION OF FOOD AND DRUGS BILL has failed to receive Governor Cleveland's signature.

THE NEW YORK POLYCLINIC.—Dr. George B. Fowler has been elected professor of physiological chemistry. Professor T. Gaillard Thomas has been elected a director, to fill the vacancy occasioned by the death of Dr. J. Marion Sims.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.—At the next annual meeting, to be held in St. Louis, October 14, 15, 16, and 17, 1884, the following topics will be presented for consideration: 1. The hygiene of the habitations of the poor. 2. The hygiene of occupations. 3. School hygiene. 4. The adulteration of food. 5. Water pollution. 6. The disposal of sewage by irrigation and by chemical action. 7. The observable effect upon public health of official sanitary supervision. 8. The work of municipal and State boards of health. From information which we have received, we judge that the meeting will prove of unusual profit.

THE PARIS FACULTY OF MEDICINE.—M. Gosselin, as we learn from the "Union médicale," has withdrawn from his work in the faculty.

AWARDS OF FRENCH PRIZES.—We learn from the "Progrès médical" that the medical prizes of the *Académie des sciences* for 1883 have been awarded as follows: The Monthyon prize is divided between M. Constantin Paul, for his work on the "Diagnosis and Treatment of Diseases of the Heart," M. H. Roger, for his "Clinical Researches on the Diseases of Infancy," and M. E. Vallin, for his "Treatise on Disinfectants and Disinfection." The Bréant prize goes to M. Fauvel, for his "Studies on the Ætiology and Prophylaxis of Cholera." The Godard prize is taken by M. Guelliot, of Reims, for his "Mémoire on the Seminal Vesicles." The Monthyon physiological prize is awarded to M. Paul Regnard, for his "Experimental Researches on the Pathological Variations in Respiratory Combustion." The La-

caze prize goes to Professor Balbiani, but the title of his work is not mentioned.

THE TEACHING OF HYGIENE.—According to the "Medical Times and Gazette," the universities of Prague and Gratz have each established a chair of hygiene, the chair at Prague to be filled by Dr. Soyka, and that at Gratz by Dr. Gruber, both of these gentlemen having been pupils of Pettenkofer's.

FEMALE VACCINATORS, says the "Lancet," have been introduced in Madras, so as to evade the prejudice against native women being treated by medical men.

THE LONDON EPIDEMIC OF SMALL-POX continues to increase. The "Lancet" states that 1,057 persons affected with the disease were under treatment on the last day of May in the various institutions of the Metropolitan Asylums Board.

THE CANADIAN MEDICAL ASSOCIATION.—The "British Medical Journal" learns that Mr. Lawson Tait has accepted an invitation to give an address in abdominal surgery at the next meeting, which is to be held in Montreal on the 25th and 26th of August.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 8, 1884, to June 14, 1884:*

THE Army Medical Examining Board, New York city, is dissolved, to take effect June 14, 1884.

BROWN, JOSEPH B., Lieutenant-Colonel and Surgeon. Upon completion of the business of the Army Medical Board, directed to comply with S. O. 44, current series, A. G. O., and return to New York city.

CLEMENTS, BENNETT A., Major and Surgeon. Directed to await orders in New York city.

KIMBALL, JAMES P., Captain and Assistant Surgeon. Granted leave of absence for two months and fourteen days, to take effect June 14, 1884, and ordered to relieve, August 28, 1884, Captain Robert H. White, assistant surgeon, from duty at U. S. Military Academy, West Point, N. Y.

Captain White, on being relieved, ordered to report in person to the commanding general, Department of California, for assignment to duty.

STERNBERG, GEORGE M., Major and Surgeon. Relieved from temporary duty in S. G. O., and ordered to assume the duties of attending surgeon and examiner of recruits, at Baltimore, Md. S. O. 131, A. G. O., June 6, 1884.

FINLEY, J. A., Captain and Assistant Surgeon. Relieved from duty at Fort Stockton, Tex., and assigned to duty as post surgeon, Fort Concho, Tex. Par. 4, S. O. 69, Headquarters Department of Texas, June 2, 1884.

MIDDLETON, PASSMORE, Captain and Assistant Surgeon. Leave of absence extended three months on surgeon's certificate of disability. Par. 3, S. O. 134, A. G. O., June 10, 1884.

BARNETT, RICHARDS, Captain and Assistant Surgeon. Assigned to duty as post surgeon, Mount Vernon Barracks, Ala. Par. 2, S. O. 113, Headquarters Department of the East, June 9, 1884.

GARDNER, EDWIN F., Captain and Assistant Surgeon. Relieved from duty at Fort Walla Walla, Washington Territory, and assigned to duty as post surgeon, Fort Canby, Washington Territory. Par. 1, S. O. 75, Headquarters Department of the Columbia, June 3, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending June 14, 1884:*

AUSTIN, A. A., Passed Assistant Surgeon. Detached from U. S. S. St. Louis and ordered to Naval Rendezvous, Philadelphia.

EDGAR, J. M., Passed Assistant Surgeon. Detached from U. S. S. Wabash and ordered to U. S. S. Nantucket.

BALDWIN, L. B., Passed Assistant Surgeon. Ordered to U. S. S. Wabash.

WHITAKER, H. W., Assistant Surgeon. Detached from Naval Rendezvous, Philadelphia, and ordered for examination preliminary to promotion.

HESLER, F. A., Assistant Surgeon. Ordered to U. S. S. Minnesota.

MEANS, V. C. B., Assistant Surgeon. Ordered to U. S. S. Vermont.

BROWNE, J. M., Medical Director. To attend the International Health Exhibition at Liverpool, England, and delegate to International Medical Congress at Copenhagen, per steamer of July 2d.

TRYON, I. R., Surgeon. To same duty with Medical Director Browne, and, on completion of this duty, to report for duty on U. S. S. Quinnebaug.

HUGG, J., Surgeon. Detached from U. S. S. Quinnebaug; on reporting of relief, to return home and report arrival.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Tuesday, June 24th*: Jersey City Pathological Society; Medical Societies of the Counties of Essex, Lewis (annual), and Washington, N. Y.

Wednesday, June 25th: New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association.

Thursday, June 26th: New York Academy of Medicine (Section in Obstetrics); Harlem Medical Association (private).

Friday, June 27th: New York Clinical Society (private); New York Society of German Physicians (private).

Saturday, June 28th: New York Medical and Surgical Society (private).

OBITUARY NOTES.

DR. JOHN G. ADAMS.—Shortly before the time for this issue of the journal to go to press, a cable dispatch was received at the Park Avenue Hotel, where Dr. Adams had resided of late, stating that he died in Liverpool on Thursday morning, but giving no information as to the circumstances of his death. For a number of years past Dr. Adams had been in infirm health, but we are not aware that there was anything known to his friends about his physical condition, prior to his recent departure for England, to lead to anxiety.

Dr. Adams was born in New York, August 12, 1807. He was educated at Yale College, and received his medical degree from the College of Physicians and Surgeons in the year 1830. For many years past he has not been a practitioner, although he has constantly shown his interest in medical matters, particularly those relating to the welfare of the profession as an organized body; indeed, so recently as last February, he represented the Academy of Medicine at the annual meeting of the Medical Society of the State of New York. He was a man of pronounced convictions and uncompromising in their enforcement, but of a kindly nature, so that he was esteemed by all who knew him. At the time of his death he was the corresponding secretary of the Academy of Medicine, a member of the board of managers, and a benefactor of the Society for the Relief of the Widows and Orphans of Medical Men, a trustee of the College of Physicians and Surgeons, and a member of the Medical Society of the County of New York, the New York Medical and Surgical Society, and the New York Physicians' Mutual Aid Association.

DR. A. BLONDEAU, OF PARIS.—The "Progrès médical" announces that on Thursday, the 29th ult., the secretary of its

editorial staff, Dr. Blondeau, died in consequence of gout with many and grave complications. The journal in question speaks feelingly of its loss, and of that of its readers.

Letters to the Editor.

RODGERS'S OPERATION FOR WEBBED FINGERS.

NEW YORK, June 16, 1884.

To the Editor of the New York Medical Journal:

SIR: In your journal for June 14, 1884, I notice an editorial entitled "Rodgers's Operation for Webbed Fingers," claiming for the late Dr. J. Kearny Rodgers priority in the suggestion of the ingenious plastic operation for the relief of this deformity commonly attributed to the Belgian surgeon Didot.

This claim is made on the strength of a statement made by Dr. A. C. Post, of this city, in his paper on Ectrodactylism and Syndactylism, published in the same issue of your journal.

At the time referred to by Dr. Post (1846) I was an *interne* in the New York Hospital, Broadway and Pearl Street. I remember distinctly Dr. Post's case, also the case, to which he refers, in which one of his colleagues in the New York Hospital undertook the performance of Dr. Rodgers's operation, but made the singular mistake mentioned by Dr. Post.

The matter was much talked about at the time, and I heard Dr. Rodgers describe his method. There was no doubt among surgeons frequenting the hospital that the credit of devising this ingenious operation belonged to Dr. J. Kearny Rodgers.

Yours very truly,

GEORGE A. PETERS.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Tenth Annual Meeting, held in New York, Wednesday, Thursday, and Friday, June 18, 19, and 20, 1884.

Wednesday's Proceedings.

THE President, Dr. EDES, being absent, Dr. W. J. MORTON called the meeting to order, and remarked that, looking over the year's work, it could justly be said that the association had not taken a backward step.

More than the usual annual accession of active members had joined, or were about to join, their ranks. The published report of the proceedings of last year had been prepared with great care, and had been published, entire or in part, in many languages. A glance backward at the cause they represented was full of suggestion, guidance, and assurance. Ten years ago, when the association was first organized, no one would have ventured to say that neurological specialism would assume the stalwart proportions that it to-day possessed. In the marvelous onward stride of medical science, division of labor had become a necessity. The growth of neuro-pathology had been rapid and strong. General medicine and surgery were under constant obligation to the neuro-pathologist. Neurological nomenclature, formerly confined to the few, was now becoming the medical vernacular.

"It now becomes my agreeable duty," continued Dr. Morton, "to introduce the president-elect, Dr. Isaac Ott, of Easton, Pa. No words are needed from me. His works have already spoken for him."

THE PRESIDENT'S ADDRESS.—After thanking the association for the honor conferred upon him, Dr. OTT directed attention to the paths of the various fibers in the spinal cord. About seventy years ago Charles Bell announced that the anterior roots of the spinal cord were motor and that the posterior roots were sensory. The physiology of the cord as taught to-day was mainly due to improvements in the technique of minute anatomical research. Longuet, in 1840, made numerous experiments, and arrived at the conclusion that the anterior columns of the spinal cord were motor and the posterior sensory. Brown-Séquard also made an extended series of experiments, and believed that the transmission of sensory impressions in the spinal cord took place chiefly through the gray matter and partly through the anterior column; that the voluntary impressions in the upper part of the cervical cord were in the lateral columns and in the gray matter between them and the anterior columns; that no tactile sensations ascended the posterior columns to the brain. As to the kind of sensations conveyed upward, he made at least seven. These views had since been somewhat modified by his studies of inhibition. Professor Schiff thought the posterior columns conducted tactile impressions, that the gray matter conducted in all directions afferent impulses which gave rise to affections of general sensibility and such afferent impulses as were concerned in reflex action. Further views of these authors were presented for the purpose of showing that the facts put forth were greatly in need of correction. After reviewing the opinions of Ludwig, Finck, and others, upon the subject, and referring to his own experiments, Dr. Ott arrived at the conclusion that the lateral columns conducted sensory and motor impulses; that the gray matter did not directly participate; that the anterior columns conducted impulses of voluntary motion; that tactile impulses also passed up the posterior and lateral columns; and that different nerve-tracts crossed over one another.

REPORTS OF OFFICERS.—The COUNCIL, the SECRETARY, and the TREASURER then submitted their reports, after which the nomination of candidates for membership and for office was in order.

ELECTION OF OFFICERS.—Dr. B. G. WILDER, of Ithaca, N. Y., and Dr. C. K. MILLS, of Philadelphia, were nominated for the presidency, and on the first ballot each received five votes. Dr. Wilder was elected on the second ballot. Dr. LEONARD WEBER, of New York, was elected vice-president, and Dr. G. M. HAMMOND, of New York, secretary. Dr. W. R. BIRDSALL and Dr. W. J. MORTON, of New York, were elected members of the council.

Dr. WILDER then exhibited PREPARATIONS ILLUSTRATING (A) THE EXISTENCE AND CIRCUMSCRIPTION OF THE PORTE (FORAMINA MONROI) IN THE ADULT HUMAN BRAIN; (B) THE PRESENCE OF THE CRISTA FORNICIS IN FETAL AND NEW-BORN HUMAN BRAINS; (C) TWO ADDITIONAL CASES OF ABSENCE OF THE CALLOSUM IN THE DOMESTIC CAT; (D) THE COVERING OF THE CEREBELLUM BY THE CEREBRUM IN A YOUNG CHIMPANZEE WHOSE BRAIN HAD BEEN HARDENED WITHIN THE SKULL.

Dr. R. W. AMIDON presented a human brain, in which there was ABSENCE OF THE CALLOSUM, and said he would read the history subsequently.

Dr. E. C. SPITZKA said it was an error to suppose that a preponderance of the cerebrum over the cerebellum was *per se* an indication of high development. On the contrary, the cerebellum being midway, so to say, of fibers to be finally transported to the cerebrum, and forming a dépôt for the higher centers, it stood to reason that, if any relation existed between them, the two must progress evenly. As we proceeded from a lower to a higher form of being, the cerebrum and cerebellum became more intricate.

Among the anthropoid apes, the lesser overlapping of the cerebrum was really an indication of higher development on the part of the chimpanzee.

Dr. WILDER said he had presented the specimens to illustrate the importance of making anatomical preparations in a manner that would not misrepresent nature, thus avoiding a great deal of unnecessary discussion, false conclusions, and the use of printer's ink.

Dr. SPITZKA said, further, that Benedikt, of Vienna, had made the statement that in criminals the cerebrum did not overlap the cerebellum, but it had been shown in a discussion at a society meeting that the projection of the cerebellum in the cases which he had examined was due to the position in which the brain lay; and this was another proof of the advantage of Dr. Wilder's method of hardening preparations.

(To be concluded.)

CHICAGO MEDICAL SOCIETY.

Meeting of May 19, 1884.

A UNILOCULAR OVARIAN CYST WEIGHING TWENTY-FOUR POUNDS.—Dr. CHARLES T. PARKES showed a specimen, and related the case. The cyst was perfect, and had been removed four days before from a girl nineteen years old. It had probably been developing for three years, and for two years and a half the girl had been treated for various disorders, such as dropsy and the like. Six months ago she consulted Dr. Parkes, who diagnosed an ovarian cyst. It had gradually increased in size until the abdomen had attained the circumference of forty-four inches. There had been no symptoms except those arising from its large size, and the girl was in good health. It did not appear to be compound, and it was judged that but few adhesions would be met with. [When the specimen was inflated with air there were no corrugations, and it was considered one of the most beautifully developed unilocular ovarian cysts ever seen at the society.] In the operation for its removal an incision three inches and a half in length was made. The pedicle was found to be very broad, as usual with cysts of this sort; it was secured with a double ligature. No coils of intestine were adherent to the cyst, and but a single shred of omentum was involved. After the operation the temperature did not rise above 99.5° F. The pulse went up to 100, but was now ranging in the nineties, and convalescence was predicted. The interest of the specimen lay chiefly in its perfection, as shown by its rotundity when inflated. The sac weighed one pound, and the contents twenty-three pounds.

A UTERINE MYOMA WEIGHING THIRTY-FIVE POUNDS; ABDOMINAL MYOMOTOMY.—The second specimen was shown by Dr. E. C. DUDLEY. The patient was a Norwegian woman, forty-eight years old, a domestic, who was unmarried and had never been pregnant. The operation for the removal of the tumor was done on the 17th of March. Two years ago last autumn the woman ceased to menstruate. The tumor had been developing for a number of years, and all the surgeons whom she had consulted during the past three or four years had stated that any attempt at its removal would destroy her life. On examining the tumor, Dr. Dudley supposed it to be a fibroid with extensive adhesions. It had developed in the left side of the pelvis. There was no tympanites on that side, but a line of resonance extended for eight or nine inches over the transverse colon. The cervix could scarcely be reached by the vagina, and no outline of its vaginal portion could be determined. The tumor was very hard, and it was judged to be of unusual size. His prognosis was that without operation it would prove fatal, and that with an operation there was but little hope of recovery. The patient sought Dr. Dudley's opinion as to the chances

for her from an operation on several occasions, at intervals of a few days, and was told that the operation was not necessarily fatal. Her appetite was greatly impaired, her stomach rejected almost all kinds of food, she had become very anæmic, and her emaciation was such that she presented almost a cadaveric appearance. The operation was performed with the assistance of Dr. R. N. Isham, Dr. C. Fenger, Dr. W. W. Taggard, Dr. W. P. Verity, Dr. George Isham, and a student. For two days before, the patient had been put in as good a condition as possible, the attentions given her including two administrations of the Turkish bath. All the furniture of the room, including carpets, curtains, etc., were removed and thoroughly disinfected, and for twenty-four hours her bed-room was subjected to the action of the fumes of sulphur. Her abdomen was washed with a weak solution of corrosive sublimate; the hair was shaved from the pubes and from about the vulva—in short, every possible lodging-place for infection was carefully cleansed. Like precautions were taken with her clothing, her bed-linen, etc. The ligatures to be used were boiled for ten minutes in a ninety-five-per-cent. solution of carbolic acid, and for half an hour in a five-per-cent. solution; all the instruments to be used were subjected to the influence of flame, and then carbolized; and the hands of all who were to be present were washed in carbolized water. When the patient had been anesthetized with ether, an incision was made, extending from the umbilicus upward to within two inches of the ensiform cartilage, eighteen inches in length. This was done for fear of opening into the bladder by cutting downward, for the tumor had drawn the bladder up to the umbilicus, being adherent to it by its anterior surface. The urachus was opened, and a spurt of urine followed. A large bundle of vessels, looking like intestine, was severed, and it was with some difficulty that these vessels were tied. The weighty mass was now exposed, springing from the left side of the uterus and involving the broad ligament. The tumor measured at least a foot in each of its diameters. The mass was firmly adherent to the peritonæum posteriorly, but the bladder was peeled away from it easily. An hour and a half had been consumed before the pedicle was secured, which was done with an elastic ligature, a solid rubber cord a quarter of an inch in thickness, wound four times around the pedicle, before the tumor was severed from the uterus. Another tumor, of the size and shape of a foetal head, was then discovered, filling the true pelvis, and it seemed wonderful that the functions of the rectum and bladder had not been more interfered with. The lesser tumor sprang from the posterior wall of the uterus, and its pedicle, which was as large as a man's fist, was secured by precisely the same kind of ligature as had been used on the larger one. The large tumor especially was exceedingly vascular. Much time was lost in applying Esmarch's bandage, but it slipped off, and its use had to be abandoned. The patient's pulse had become very feeble—indeed, she seemed more dead than alive. She was placed in bed, with two drainage-tubes in the wound, and the pedicle secured externally with a clamp. The minor details connected with the closure of the wound were carefully attended to.

From the first day to the eighth she was conscious, flatus passed downward, her temperature ranged between 98° and 101°, and her pulse between 100 and 120. On the ninth day her temperature rose to 102·8° in the morning, and to 103° in the evening. On the eleventh and twelfth days the temperature went up to 104·5°, with aggravation of her condition otherwise. It was thought that pus was forming in the lower part of the abdomen, and, with the assistance of Dr. R. Tilley and Dr. Fenger, this cavity was opened through the vagina. At least half a pint of foetid matter escaped, and a drainage-tube was passed in through Douglas's *cul-de-sac*. The abscess, which

had formed below the pelvic organs, was carefully washed out with a warm, weak solution of carbolic acid, and within two days a large amount of pus was discharged and her temperature had fallen two or three degrees. In a few days it rose again to 104·5°, and the pulse to between 135 and 140, and she had hectic chills. A counter-opening was made, and the symptoms again became ameliorated, the pulse keeping about even pace with the temperature and respiration until the twenty-seventh day, when the drainage-tube passing through the *cul-de-sac* was removed, together with the smaller-sized ligature. This procedure was followed by a slight rise of temperature. On the thirty-seventh day the large double ligature, consisting of the rubber cord, was removed, and a considerable sloughy mass came with it. After four days more the opening into the vagina closed spontaneously. On the sixtieth day the temperature rose to 101°, or perhaps a little higher, and the cause assigned for it was that she had exposed herself at an open window the day before. The following day the temperature rose to 102°, and there was considerable fever, but, under the use of suitable measures, these symptoms had all improved again by the evening of the sixty-third day, and there could now be no doubt of her final recovery. Throughout the entire treatment of the wound, it was dressed with iodoform by insufflation, and the drainage-tubes were at all times carbolized. The patient was now in excellent condition.

Referring to the points of interest in the case, and those of difficulty in such operations, Dr. Dudley laid stress upon the advantage of the double rubber ligature over silver and silk.

Dr. PARKES referred to the difficulties of diagnosis presented by these tumors. Multiple fibromas, he said, were difficult of removal. He had done the operation in three instances, and all the patients had died, but yet the prognosis was as good as it was a few years ago after ovariectomy, and the operation was fully justifiable. He favored the extra-peritoneal method of dealing with the pedicle, as had been adopted in Dr. Dudley's case.

Dr. J. R. FLOOD spoke of this particular operation as a triumph of surgery, considering the magnitude of the specimen.

Dr. G. H. RANDELL asked if removal of the uterus would have been practicable in this case.

Dr. R. TILLEY corroborated some of the particulars alluded to by Dr. Dudley, and in particular spoke of the amount of pus that escaped when the opening was made in Douglas's *cul-de-sac*.

Dr. L. H. MONTGOMERY inquired of the operator how much of the incision yet remained open. He understood, of course, that its great length was made necessary by the solid character of the tumor, and he presumed that it did not contract after the operation, as the incision usually did after the removal of an ovarian cyst.

Dr. J. H. EYERIDGE asked what the depth of the uterus was before the operation.

Dr. DUDLEY said that the depth of the uterus before the operation was very nearly normal, only about three inches. The incision had now closed entirely, except for an opening only large enough to admit the tip of his little finger; as suggested by Dr. Montgomery, it had not contracted after the operation as it usually did after ovariectomy. It would not have been practicable to remove the uterus, but such a procedure would have increased the danger of the operation. The extra-peritoneal treatment of the pedicle was sometimes quite impossible to carry out. In his case, Nature had insisted on changing the intra-peritoneal to the extra-peritoneal treatment, and had thus saved the patient. During a part of the time consumed by the operation, it had been necessary to insert disinfected sponges into the abdominal cavity; they were soaked in a weak solution

of carbolic acid—perhaps of the strength of one to twenty thousand, which was said to be strong enough to destroy germs.

LISTON H. MONTGOMERY, M. D., *Secretary.*

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of June 11, 1884.

Dr. R. W. AMIDON, Chairman for the evening.

FIBROUS TUMOR OF THE BREAST; TUMOR OF THE PENIS; LIPOMA OF THE SHOULDER.—Dr. WACKERHAGEN presented three specimens, which were referred to the microscopical committee. The tumor of the breast had begun to develop twenty-five years before, as a small lump, and during the last two years had become painful. It weighed nine ounces. A tumor weighing two ounces was removed from the axilla. An imperfect examination pointed to a fibrous, not a cancerous, growth. The wound healed entirely under bichloride and iodoform dressing by the eleventh day, when the dressing was removed for the first time.

TUBERCULAR PERITONITIS IN A CHILD.—Dr. NORTHRUP presented the intestines of a child which died at the fourth year of age, of tubercular peritonitis. It was brought to the New York Foundling Asylum in February, with ascites. It had been out, attended by a nurse, and was reported as in good condition. While it was in the hospital the feel of the abdomen became more or less boggy, and finally the fluid ceased to change position when the child was turned from side to side. There were no symptoms except those of bronchitis and occasional attacks of constipation. Death took place from exhaustion. At the autopsy, the abdominal wall was found closely adherent to the mass within. The coils of intestine, both large and small, were glued together, constituting one mass with the liver, spleen, and stomach. The liver, spleen, and kidneys contained a few miliary tubercles. In the lungs the tubercles were scattered throughout, and there was diffuse pneumonia with oedema. The brain was not examined. One ureter was much dilated, due probably to a constriction arising from adhesion. Ulcers in the intestine had perforated the gut. The peritonæum contained large round tubercles throughout. Dr. Northrup remarked that this was the only case of the kind which he had seen in a child, although he had examined over two hundred children which had died of tuberculosis. Death from tubercular peritonitis might not be very uncommon in the adult, however.

Dr. PEABODY said he had not seen the condition in children. He thought it was not very uncommon in the adult.

Dr. PETERS had seen tubercular peritonitis in two children in the same family, one being between two and three, and the other between four and five years old. There were at first only symptoms referable to the bladder, and afterward those pointing to the brain. In these cases, also, the tubercles were not limited to the peritonæum, but were found in the liver, spleen, and kidneys as well. The brain was not examined. There was no family history of tubercle.

Dr. FERGUSON said that some time ago he made an autopsy in a case in which certain physicians had made a diagnosis of an ovarian tumor, there being an abdominal tumor, and he found, on opening the abdomen, that there had been a perforation of the intestine, as in Dr. Northrup's case, and the escaped contents had become limited by inflammatory material and presented the appearance of a tumor.

TUBERCULAR MENINGITIS IN A CHILD.—Dr. KNIGHT presented a part of the brain of a child which died of tubercular meningitis at one year of age. The case was somewhat interesting on account of a family history of syphilis misleading the physician to make a diagnosis of syphilitic meningitis. The child had been sick about five days when Dr. Knight was called. On the sixth day the patient was apparently unconscious, the

head rolling from side to side, with occasional muscular twitchings, the pulse being regular, and the temperature not elevated or but slightly so. No nourishment was taken. The second day after he saw her she was lying on the left side, apparently asleep, the left arm and leg being drawn up and down constantly. The right side was motionless. The movement of the left arm and leg continued constantly day and night. There was some movement of the jaw on his visit on the third day. There were occasional twitchings of the lids on the sixth day, and the eyeballs were constantly moving. The left arm became rigid on the sixth day. There was a violent spasm of the right side on the seventh day, and three hours later the child died. The temperature did not go above 101° F. At the autopsy, tubercles and a translucent membrane were found covering a considerable portion of the base of the brain, including the cerebellum, the optic chiasm, and the pons. The father had contracted syphilis about five years and a half before the birth of the child, and about a year later the mother had become infected. During the first year of the mother's disease a child was born which presented the signs of syphilis. The child from which the specimen was taken was born during the fifth year of the mother's infection. It had no lesions at birth, nor afterward. Dr. Amidon, who made the microscopical examination, had first supposed there was syphilitic lesion, but it proved to be, apparently, purely tubercular.

The CHAIRMAN remarked that in certain cases, as in this one, we found the gross lesions more like those of syphilis than those of tuberculosis, while the microscopical examination discredited the theory of syphilis.

Dr. NORTHRUP thought the symptoms pointed pretty clearly to tubercular meningitis.

Dr. PEABODY said a woman was admitted to the New York Hospital suffering from symptoms of meningitis, from which she died. At the autopsy he found a condition of things very similar to that which Dr. Knight had described as covering a part of the base of the brain, and extending down on the anterior surface of the spinal cord—a thick, gelatinous looking substance, from an eighth to a sixteenth of an inch in thickness, quite clear, and containing no tubercles. There was perivascularitis, and in some places there was endarteritis obliterans, which led him to believe it was syphilitic. There were no tubercles at any place. Possibly in Dr. Knight's case there were both tuberculosis and syphilis.

Dr. NORTHRUP thought that, as a rule, in well-developed tubercular meningitis there was a gelatinous layer at the base of the brain, which was apt to be of a greenish color.

Dr. VAN GIESON thought twelve days rather a short course for tubercular meningitis. Cases in which there was a large amount of congestion were more likely to be attended by the gelatinous effusion. With regard to whether or not syphilis might have been an ætiological factor in Dr. Knight's case, he thought that in children who died from a syphilitic lesion of the brain there were almost always previous skin lesions. The low temperature in this case was not extraordinary. He had attended a case of tubercular meningitis which terminated in death, the temperature at no time going above 100° F., although it was taken frequently and with different reliable thermometers. He replied to a question by the chairman that, if there were a sudden rise of temperature, it was likely to be pre-agonistic. This, however, by no means always occurred. The symptoms presented in the case narrated by Dr. Knight were not unusual.

The CHAIRMAN thought there was always a pre-agonistic rise of temperature in tubercular meningitis. He then presented microscopical specimens illustrative of the disease as it occurred in a child five years and a half old. There was a marked

family history of tuberculosis. The child had always been well, but was sensitive to cold. Three weeks before the fatal illness it began to cut its back teeth, and was very irritable, and then began to act in a manner pointing to meningitis—not wishing to be disturbed, preferring a darkened room, and appearing irritable. At seven o'clock of the morning of the last day of life the patient was for the first time seized with a general convulsion. It had been sleeping well during the night, and awoke conscious. It lost consciousness, and the eyes remained open and fixed. It lay bathed in a warm perspiration, the temperature being 105°. Death took place at noon. At the autopsy the base of the brain was found studded with miliary tubercles. The other viscera were not examined.

Dr. PETERS remarked that he had found the primary symptoms more variable in tubercular meningitis than in almost any other disease. The manifestations would correspond to the order in which the roots of the nerves were invaded at the base of the brain. He knew of no affection in which it was more difficult to make a definite diagnosis during the first four or five days than in tubercular meningitis.

The CHAIRMAN regarded the premonitory stage of irritability, inability or disinclination to talk, dread of being disturbed, and desire to rest quiet in a dark room, as almost pathognomonic of the onset of the disease.

Dr. L. LEWIS SMITH, who had just arrived, being asked his experience as to the course of the temperature in these cases, said it had varied in height according to the extent of the meningeal inflammation. If the amount of inflammation excited by the tubercles was moderate, the febrile movement would be mild. He had been interested in Dr. Peters's remark as to the difficulty of making a diagnosis early in the course of the disease. He had frequently been called to see cases in which the physician had previously dignosticated remittent fever.

ULCERATIVE ENDOCARDITIS; ANOMALY OF THE LIVER.—Dr. FERGUSON presented the liver and heart of a boy who died at the fourteenth year of age, having for two months before admission to the hospital complained of shortness of breath, weakness, and loss of appetite. On admission, he was fairly nourished, the face looked puffy, he was anæmic and cachectic, and suffered from dyspnoea, the breathing being principally diaphragmatic. The pericardial area was increased, and a harsh cardiac murmur was present. He died quietly two days after admission. The cavities of the heart were dilated. One of the aortic cusps was nearly destroyed, and just above it was a small, smooth opening in the aortic wall, which communicated with the interventricular septum. The left lobe of the liver was only rudimentary. The right was roundish in form, and on its surface there were a few small nodules. The gall-bladder was divided by a septum into two lobes. This was the first time Dr. Ferguson had seen this anomaly.

FIBROUS AND FATTY DEGENERATION OF THE HEART WALLS.—Dr. PEABODY presented the heart of a woman, fifty-six years old, who died in the New York Hospital after having been under observation for about two weeks. The history was quite meager. She was the mother of seven children, and had been in comparatively good health until four months before admission. Twelve years ago she had suffered from cardiac palpitation. On admission, she was suffering from dyspnoea, there was œdema of the lower extremity and of the lower half of the abdominal wall, and there was also marked ascites. When she first entered, she was passing more urine than normal, but the amount gradually diminished to twelve ounces daily, and even less. It contained albumin, and hyaline and granular casts. The specific gravity was in general low. The liver was displaced downward and gave rise to difficulty in diagnosis. At the autopsy, the kidneys were found to be the seat of parenchymatous and inter-

stitial nephritis. The heart was both dilated and hypertrophied. The point of greatest interest was the presence of a large amount of fibrous tissue in the wall of the left ventricle, especially at its apex, where it was very thin. The microscopical examination showed fatty degeneration of the muscular wall in the immediate neighborhood of the white fibrous tissue, while, just beyond, the wall was normal. The endocardium was everywhere thickened. There was an abundant atheromatous deposit in the aorta, surrounding the coronary arteries, and in the mitral valve. The valves were competent. There was a slight degree of cirrhosis of the liver, with marked evidence of tight lacing. The peritoneal cavity contained 2,500 c. cm. of fluid. Dr. Peabody said that, clinically, this form of cardiac hypertrophy without valvular lesion gave the patient greater distress than any other. Here there was no valvular lesion, no murmur, no apparent interference with the function of the heart, but there was marked hypertrophy of the ventricular wall, which subsequently gave place to dilatation. In reply to a question by Dr. Van Gieson, whether angina pectoris was present, Dr. Peabody said it was not, but he presumed that was to be accounted for by the fact that the occlusion of the coronary arteries had not yet reached quite a sufficient degree. He thought that any condition causing their occlusion might give rise to the symptom.

Dr. PETERS referred to two cases in which patients suffering from angina pectoris died suddenly, and obstruction of the coronary artery was found.

THE MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Third Annual Meeting, held in Boston, June 10 and 11, 1884.

The President, Dr. ALFRED HOSMER, of Watertown, in the chair.

Wednesday's Proceedings.—(Concluded from p. 671.)

SANITARY FOREST CULTURE.—Dr. J. F. A. ADAMS, of Pittsfield, read a paper in which he spoke of the great destruction of forests in this country, and alluded to the interest in forest culture that had been created during the past few years by various societies which had been organized to promote and protect this interest. Forests acted beneficially, and their destruction should be resisted upon sanitary grounds. They acted by, *first*, regulating the streams; *second*, modifying the climate; *third*, acting as a protection from malarial influences. The change in the character of the productiveness of the soil in the south of France was alluded to. The effect of forests on the water-supply was shown, for, in places where there had been a destruction of trees and a second growth had been allowed to come up, the springs had become refilled. As an example of this, Palestine was mentioned, where, by the culture of new groves of the oak and the olive, the springs, which had for a long time been dry, were now filling up again. He also told of the experiment by which the planting of twenty millions of trees had doubled the water-supply of the locality. Yet, in contradistinction to this, he said that in Marietta, where a record had been kept since 1817, no perceptible change in the water-supply had been noticed, though the forest lands had been decreased by thirty per cent.

Forests modified the climate by sheltering us from the force of the wind; they also cooled the air in summer, and warmed it in winter. The statement was made that in well-wooded countries thunder-storms were not so severe as in other places.

Under the third head he said that trees served as a protection from malarial diseases. Acting in a mechanical way, the experiments of Professor Tyndall tended to show that this was the most likely way for them to have any effect.

It was a well-known fact in malarious countries belts of trees around a house acted as a protection. The freedom of the dismal swamp from malaria was attributed to the large growth of cypress-trees there. To strengthen this idea, it was said that malaria was not known in Rome till after the trees on the marshes had been felled, and the same might be said in a less degree of certain parts of France and Spain, and trees were now planted to stop this influence.

In order to insure the protection of forests and prevent this wholesale destruction we should

1. Educate the people and instruct them as to the dangers to be expected from such a course.

2. Look to the enactment of laws for the protection of forests as they now were.

3. Establish schools of forestry in the various agricultural or similar institutions.

The reader stated that eleven States had laws regulating the depletion of forests, and in seven more similar laws were likely to be enacted.

One great reason why the public were not alive to the issue was that the benefits were not sufficiently local to demand earnest work.

Often the stream that furnished the water-supply to a town had its source in another town, county, or State; and the same reason applied to manufacturers, and influenced them in a like manner. The true way was to have towns or corporations take the matter in charge, and have the State control and regulate the sale of lumber from its lands.

In western Massachusetts it was a well-recognized fact that some of the farm-lands formerly the best had been rendered barren by the wholesale destruction of the trees. The soil, becoming dry and loose around the roots, was washed away by the rains, and the rocks below were all that was left.

If the planting of trees was resorted to, the soil would undoubtedly become as fertile as before.

WEIGHT AS AN INDICATION OF THE CHARACTER OF RISKS FOR LIFE INSURANCE.—Dr. JOEL SEAVENS, of Roxbury, read a paper with this title.

From among 974 deaths that had been recorded in the past six years in a beneficiary society, the reader had collected all which had occurred of persons who at their admission weighed 15 per cent. or more less than the normal standard, 138 in all, and showed in tabular form a list of them, giving their age, height, weight, the length of time they had lived after being examined for admission, and the cause of death. From this it appeared that there was a large mortality among them, due in great measure to tuberculosis and other wasting diseases; that this tendency was not manifested simply among those who were more than 20 per cent. lighter than the standard, but was present also in those not more than 15 per cent. below that line.

It was stated that in companies and societies which insured lives it was generally assumed that a variation of 20 per cent. might safely be allowed without danger of incurring loss, but the reader was satisfied that, where a deficiency of even 10 or 15 per cent. existed, the risk must be looked upon as hazardous, or at least should be thoroughly scrutinized and tested to prevent the possibility that this deficiency in weight might be found to be only a symptom of constitutional disease, or an evidence of some pre-tuberculous condition.

A table was next presented of 122 from out the same 974 deceased members who at joining were 15 per cent. or more above the standard weight, and the causes of death among them were also shown. It was pointed out that this class was made up of much older men, who died of a very different group of diseases from those of which the class deficient in weight had been found to die of; that with those who were but little above

the standard (15 to 20 per cent.), the results were much more favorable than with the light weights in the same range, that it was not till the excess became 20 to 25 per cent. that the mortality became large, and that even with those above this rate was no such evident result of fatty degeneration or general cachexia as might have been anticipated. Deaths from cerebral and cardiac changes were prominent, as were also sudden deaths, but not so markedly so as we were generally taught to expect. In conclusion, the reader believed that men, especially young men, who were deficient in weight, even when the deficiency was not more than 15 per cent., were more hazardous risks than those whose weights were 20 to 25 per cent. above the usual standard, especially because of the great liability of the former to become phthisical, a tendency which need not be feared among the corpulent. Care, however, should be taken with the latter to see that the heart and kidneys were in a healthy condition, and that there was no hereditary tendency to cerebral disease.

At twelve o'clock the ANNUAL DISCOURSE was given by Dr. JOHN CROWELL. Referring briefly to the material prosperity of the country, he spoke enthusiastically of the recent progress in the medical profession, the investigations of observers with the microscope, and the benefit derived from such knowledge. He spoke earnestly of the bad sanitary condition of most dwelling-houses, the plumbing in few being what it should be. The houses in the country to which invalids were sent were frequently in the most wretched sanitary condition. The need of preparing palatable, nutritious food was mentioned, and the conduct of the sick-room was alluded to, the value of a trained nurse being emphasized. The attitude of this branch of the profession toward the other schools was considered. The speaker referred also to the danger of public funerals in the case of deaths resulting from contagious diseases, to the subject of vaccination, and to the laws regulating the practice of medicine.

At the close of the address a vote of thanks of the society to the orator was passed. The Chair then introduced the newly elected president of the Society, Dr. C. D. HOMANS.

At one o'clock the ANNUAL DINNER was served in the Skating Rink, Clarendon Street, about 750 members and invited guests being present.

Dr. GEORGE B. SHATTUCK, of Boston, was the anniversary chairman.

After-dinner speeches were made by Dr. CHARLES HOMANS, Dr. ALFRED HOMER, GOVERNOR ROBINSON, the Rev. Dr. COURTNEY, Dr. JOHN CROWELL, the Hon. W. A. FIELD, and others.

NEW YORK OBSTETRICAL SOCIETY.

A STATED meeting was held February 5, 1884, W. M. POLE, M. D., President, in the chair.

MISSED ABORTION; SOLEROISIS OF THE PLACENTA.—Dr. H. J. GARRIGUES presented a specimen, accompanied by a written history. [See p. 690.]

TWO CASES OF OÖPHORECTOMY.—In the absence of the author, Dr. B. F. DAWSON, Dr. C. C. Lee had been requested to read for him the histories of two cases of oöphorectomy, and to present the specimens:

CASE I.—Mrs. F., aged thirty, for two years a widow, with no children, had had one miscarriage at the third month, occurring after a strain, about two years ago. She had been well up to that time, but soon afterward began to suffer from severe neuralgic pains in the pelvis and from dysmenorrhœa. These symptoms gradually increased in severity until she consulted Dr. Dawson in December, 1883. He found the right ovary enlarged, tender, and prolapsed, and apparently fixed in the cul-de-sac. Oöphorectomy was advised, and was performed on January 19, 1884. An incision two inches and a half long was

made, and the right ovary was brought into the wound with considerable difficulty. The tube and the ovary were ligated, and removed with the cautery. Some hæmorrhage from a small rent in the pedicle subsequently rendered enlargement of the incision necessary, when the pedicle was again ligated and cauterized. The left ovary and tube, with a small cyst of the broad ligament, were found directly under the abdominal wall, and were removed without difficulty. The patient made a very satisfactory recovery. The highest temperature—103° F.—occurred on the third day, and readily yielded to the abdominal coil. Particular attention was paid to the "peritoneal toilette."

CASE II.—Mrs. E. T., aged thirty-seven, married eight years, was the mother of two children, the last one born five months since. The labor was complicated by post-partum hæmorrhage. Dr. W. A. Hammond and Dr. C. H. Brown were consulted by her husband, with the history that she had attempted suicide eight years before, and that symptoms of melancholia had developed. When she was seen, her gait was stooping; the brows were strongly wrinkled; she had no hallucinations. She cried a great deal, would not answer questions, but often complained of pains in the head, breast, and pelvis. She was referred to Dr. Dawson, who discovered ovarian tenderness and prolapse of the right ovary into the *cul-de-sac*, and advised oöphorectomy, which was performed on January 21, 1884. An incision two inches and a half in length was made, and the ovaries were removed without difficulty. Recovery was rapid. At the present time the mental condition was improved; she cried less, and the brow was smooth.

Both patients were operated upon at their houses. The spray was used in the room, but not over the abdomen. As soon as the peritonæum was opened, the edges of the wound were protected by carbolyzed napkins, to prevent any access of blood to the peritoneal cavity, and extreme cleanliness in every detail was practiced.

Dr. LEE remarked that the condition which was found to exist in the first case, and which looked very much like a hydro-salpinx, certainly justified the operation, for it soon would have developed into a large cyst. The rapid recovery of the patient seemed further to have warranted the early operation, although a sufficient length of time had not yet elapsed to enable one to say that the recovery would remain permanent. With reference to diagnosis in these cases, when the abdominal walls were thin we were sometimes able to determine the nature of the tumor with a good deal of certainty, but in other cases it was not possible to do so. Within the past year two of his friends in this city had opened the abdomen, to find, instead of disease of the tubes or ovaries, uterine fibroids. In each instance the wound was closed and the patient, happily, recovered.

The PRESIDENT inferred that Dr. Lee did not consider that in cases of this kind we were justified in opening the abdomen merely for purposes of diagnosis.

Dr. LEE thought that if the case was a severe and a grave one, destroying the health of the patient, and there was no other way to account for the apparent ovarian disease, the operation was justifiable. He believed, however, that we were in danger of going to extremes, and the two cases which had occurred in the practice of his friends had taught him, in cases of small pelvic tumors, the exact nature of which could not be determined, not to operate unless he felt quite sure that the tumor was the cause of the patient's illness.

The PRESIDENT, in this connection, mentioned a case, and asked the members if they could offer an explanation. A woman came to him, having had a tumor in the pelvis for years, which he found to be easily recognizable, and which by its presence had caused partial prolapsus of the uterus, with all the accompanying disagreeable symptoms of that condition. The

patient assumed the knee-chest position night and morning, and was kept at rest for two weeks, and at the end of this time the mass was found to be diminished to two thirds its original size. The diminution in size took place without any discharge.

Dr. LEE inquired of Dr. Polk whether he felt sure that the mass was a tumor in the sense of being a neoplasm, or whether it might not have been a mass of firmly impacted lymph exudation, which was known often to assume the form of a tumor, and under certain conditions to undergo rapid absorption.

The PRESIDENT said that such an explanation had offered itself to his mind, but he found the original mass very movable, so that when the patient assumed the knee-chest position the tumor repeatedly rose above the pelvic brim, which, of course, it would not have done had it resulted from pelvic cellulitis.

Dr. H. F. WALKER inquired whether the tumor was solid or fluid.

The PRESIDENT replied that it was distinctly fluctuating.

Dr. WALKER said that uterine fibroids sometimes became engorged and gave a sense of fluctuation, while perhaps a week or two later they would be found shrunken and much reduced in size.

The PRESIDENT remarked that in such cases the tumor existed reasonably near the uterus, whereas in the one mentioned by him this distance was markedly increased in the knee-chest position. It had occurred to him that the case might have been one of hydro-salpinx which discharged a part of its contents into the uterus, but the patient gave no history of any unusual discharge.

Dr. LEE said the second case reported by Dr. Dawson reminded him of a pamphlet in which Dr. Robert Battey, of Rome, Ga., described two cases of supposed insanity, due to ovarian irritation, which were cured by oöphorectomy, and he emphasized the fact that several months passed by before the patients showed decided improvement. He ascribed this to the fact that, when the nervous system had been so long affected as to develop decided symptoms of insanity, it required some time to regain its normal state. Probably some of the members of the society had had a similar experience, and had also seen cases bordering on insanity in which the symptoms finally disappeared without operative interference.

Dr. W. M. CHAMBERLAIN said that a lady of this city had been under his care a long time to whom he proposed oöphorectomy, and she afterward consulted other gentlemen who also regarded the operation as necessary and inevitable. The patient became suicidal and homicidal, and it was necessary to remove her to an asylum. The operation, however, was not done. She remained in the hospital six months, and was then returned to her family, not cured, but she had since become perfectly well and returned to her former position in society. Dr. Chamberlain was unable in this case to make a positive diagnosis of pyo-salpinx, but he did not think he had ever seen a woman suffer more intense and protracted ovarian neuralgia than she did, or a neuralgia less amenable to treatment.

The PRESIDENT said this question had been before the Society on several occasions. Dr. Gillette had reported a case bearing on the subject. He did not think the question could be considered in any way settled. There were many cases of melancholia in which there was also undoubted uterine disease, and yet the patients got well of the mental trouble without the uterine or ovarian disease being cured. Interference with menstruation was one of the commonest incidents in mental disturbance, and it might appear to have special connection with ovarian trouble, when in reality that need not be the case. He now had a patient with prolapse of the ovary and retroversion of the uterus who three years ago shot herself through the lower border of the pericardium, the ball passing through the

left lung and lodging near the spine. She recovered from the severe pleurisy, pneumonia, and pericarditis which followed, and was to-day as beautiful a woman as he knew, and in perfect mental condition; yet the uterine and ovarian displacements remained.

INTRA-UTERINE INJECTIONS IN PUERPERAL SEPTICÆMIA.—Dr. L. A. RODENSTEIN then read a paper on this subject. [See p. 688.]

Dr. CHAMBERLAIN said he was glad to hear one of the concluding sentences of Dr. Rodenstein's paper, to the effect that the septic uterus was a relaxed uterus, and presented a wide, or at least a very distensible, os. Such had been his observation, and he had drawn the same conclusion which the author had drawn in a case seen in consultation the present week. He was called in consultation about the middle of the third day after labor. The patient had had a rise of temperature and a slight chill, but Dr. Chamberlain found the uterus firmly contracted, as hard as a billiard-ball; and, in accordance with previous observation, that the septic uterus was a relaxed uterus, he concluded that it was not a case of septic womb, and the final result had proved that it was not. On that fact was based a point in the construction of the tube which went by his name, and which had been criticised—namely, the large size of the instrument. Believing that the septic uterus was always relaxed, and the os patulous, or at least so in the early stage, he believed that the large-sized tube was the proper instrument, and the first were so made, but those made a little later were only three eighths of an inch in diameter. He, however, had never had any trouble in introducing the large tube, and had found that plenty of room remained at the sides to allow of the free escape of the fluid.

Dr. GARRIGUES believed that we had come to a point where all of these cases of puerperal septicæmia could with a great degree of certainty be avoided. Since he had introduced the treatment by bichloride of mercury, described in a paper read before the County Medical Society, December 21, 1883, he had had one hundred and forty confinements in the wards at the Maternity Hospital, which certainly had been considered one of the worst localities for confinement to take place in, one out of every four patients having been seriously ill during his previous term of service and many having died; yet, out of the one hundred and forty cases treated there since the introduction of the method mentioned, there had not been a single case of serious illness. There was one point to which he would call particular attention, as it had been mentioned in the paper; that was with reference to leaving anything within the uterus after delivery. Excellent authorities, for instance, Crédé, taught that it was not necessary to remove pieces of membrane. Dr. Garrigues, however, could not share such a view, because his personal experience was opposed to it. He had seen both very dangerous hæmorrhage and puerperal fever arise from leaving a part of the membranes. He believed that, with the perfected antiseptic measures which we now possessed, the danger of introducing the fingers, or even the whole hand, into the uterus was much smaller than the one to which we exposed the woman by leaving a part of the placenta, or only a piece of the membranes, in the uterus. He would add that he agreed fully with Dr. Rodenstein as to the value of intra-uterine injections when the disease was once there, but he thought we had a drug which ought to be preferred to carbolic acid. He had used carbolic acid for ten years, but had now given it up and substituted bichloride of mercury, and he believed that there was no comparison as to the relative value of the two drugs. This had been proved experimentally and by clinical observation. The enormous difference in the results obtained at such places as the Maternity Hospital, first under the use of carbolic acid, and at present

under the use of bichloride of mercury, proved the great superiority of the latter antiseptic.

HENRY J. GARRIGUES, M. D.,
BENJAMIN F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex officio*,
Committee on Publication.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting, June 6, 1884.

The Vice-President, Dr. B. F. BAER, in the chair.

PYO-SALPINX AND HYDRO-SALPINX.—Dr. WILLIAM GOODELL exhibited specimens illustrating these conditions. In the case of *pyo-salpinx* the lady was unmarried and had suffered from pelvic pains and menorrhagia for several years. Last autumn a tumor was discovered by her physician, who deemed it a fibroid of the womb. Early this year her sufferings became so great that she took to her bed. Very large doses of morphia were needed, and septic symptoms now set in. After she had been in bed for several weeks Dr. Goodell was called to see her. The tenderness of the abdomen was now so great that the examination was made under ether. Even then the diagnosis was obscure, because she flinched and her recti muscles became tense whenever the abdominal wall was pressed upon. A cyst was discovered, but what its nature was it was impossible to determine. Dr. Goodell operated on her at his private hospital. The womb was studded with small fibroid nodules. Posteriorly it had an outgrowth as large as a small egg. Closely adherent to the womb, to the pelvic fascia, and to the intestines was a thick-walled cyst of the left ovary as large as the largest orange. The corresponding oviduct was very thick and enlarged to the size of a small sausage. It and the cyst were filled with a very dark purulent fluid, although there was no communication between them. The lower end of the cyst had become necrosed and was so thinned that it would very soon have given way at that point. On account of the presence of fibroids in the womb the right ovary also was removed. Attached to the fimbriae of the oviduct were three very beautiful pedunculated vesicles, while two others not yet pedunculated lay in the stroma of the broad ligament. The recovery of the lady was uninterrupted.

In the case of *hydro-salpinx*, the patient was a widow, aged thirty-seven, who had been sent to him in order to have her ovaries removed. Severe pains began a week before the menstrual flux, culminating during the flow and continuing one week longer, then fading gradually away. For three weeks out of every month she was confined more or less to the recumbent posture, and wholly so during the menstrual week. A tear of the cervix and one of the perinæum had been well repaired by two surgeons, but with no improvement. Dr. Goodell wished her at first to try the rest treatment, with massage, electricity, and graded muscular movements, for he had repeatedly cured cases of this kind by such a mode of treatment. She was, however, too poor to take this treatment privately and therefore was urgent to have her ovaries removed. The operation was performed fifteen days before the meeting, and she was now doing very well indeed. The ovaries as exhibited were much enlarged and showed marked follicular degeneration. From this condition, Dr. Goodell thought that nothing short of the operation would have cured her. Attached to one oviduct was a delicate vesicle with a thread-like stem of over an inch in length. In view of the frequency with which they were found, he could not but think that these vesicles played some rôle in the economy, and that they had sometimes a pathological bearing. He had on several occasions met with small post-uterine cysts which burst either spontaneously or under the pressure of an ordinary vaginal examination. Taking advantage of this fact, he had

quite recently burst one designed by bimanual pressure. Such delicate cysts, and also those very movable ones which remained small, he was disposed to attribute to these vesicles. After bursting, these cysts sometimes filled again. One he had known to do so at least six times before it disappeared. Small ovarian cysts had, in his experience, thick walls, and, further, they rarely remained small any length of time. Dermoid cysts, on the other hand, often remained stationary for years, but they were generally not very movable, and they also had thick walls.

Dr. ALBERT H. SMITH had found these cases of pyo-salpinx very difficult of diagnosis. He had been present at an operation by Mr. Knowsley Thornton, of London, in a case in which the lesion was double, and both tubes and ovaries were removed. Rupture had occurred previously, and had been followed by peritonitis. The patient recovered.

Dr. B. F. BAER inquired if Dr. Goodell would recommend rupture of cysts arising from the hydatids of Morgagni.

Dr. GOODELL would consider it good surgery, for the purpose of preventing the further growth of the cyst. He had always found the fluid in small cysts to be unirritating.

Dr. SMITH remarked that Schröder held that the fluid of an ovarian cyst was not noxious to the peritonæum. He made no effort to protect the peritoneal cavity from its ingress during an operation, and yet his statistics showed a remarkable success.

In response to a question by Dr. C. Meigs Wilson, Dr. GOODELL stated that the dressing of the wound after the operation was glycerole of carbolic acid, with the Lister gauze.

HYSTERECTOMY.—Dr. GOODELL also gave the following history of a case:

The woman was unmarried, aged forty-seven. Her menstruation began to be free in 1867. A year ago it became so exhausting that she could not pursue her trade as a seamstress. On April 30th she consulted Dr. Goodell, who found the whole abdomen filled with multiple fibroids of the womb. The cervix had disappeared, and the os uteri lay so high up that it was not possible to introduce the sound. The operation was performed at the hospital of the University of Pennsylvania on May 22d. One outgrowth as large as the two fists contained a cavity filled with cheesy matter, and was so adherent to the abdominal wall and intestines as to need the knife for its release. It was possibly the right ovary, but he was by no means certain. Kæberle's wire clamp was passed around what corresponded to the neck of the womb, but it was as large as his arm above the elbow. The woman's recovery thus far had been uninterrupted. The temperature reached 100° F. but once. The clamp fell off on the sixteenth day, leaving a very deep funnel-shaped pit. He had intended to exhibit the specimen, but it was too bulky to carry, and also had become quite offensive. In this case, had he been able to reach the ovaries, or to discover them, he would have removed them in preference to performing hysterectomy; but the firm adhesions prevented the rotation or the lifting up of the tumor; hence the ovaries were inaccessible. Sometimes, even when a uterine fibroid could be lifted out of the wound, and the ovaries reached, these organs were so imbedded in the fibroid, or so drawn out in ribbon form on the surface of the tumor, as to make their complete removal impossible. When, however, the ovaries could be removed with safety, the operation was a most promising one, as he could attest from several most successful cases.

PARTIAL PLACENTA PRÆVIA.—Dr. W. T. TAYLOR reported the case of an Englishwoman, aged forty-six years, the mother of ten children, who came to see him in December, 1883, in consequence of abdominal pains, headache, and vertigo, with a suppression of her menses which she attributed to the "change of life," as she had been irregular for a year before. She also had

numbness with tingling in the hands and feet, and had not been so affected in any former pregnancy. Consequently she would not believe herself to be in that condition until some weeks later, when she quickened. In the month of February last she had enlargement of the veins of the legs, with œdema of the feet and ankles, for which she took occasional doses of potassium bromide, with a solution of cream of tartar (one ounce to water one pint) to be taken freely. By this treatment she was temporarily relieved. On March 27th she had abdominal pains and a profuse hæmorrhage, which saturated her clothing and greatly alarmed her. On examination, Dr. Taylor found the os uteri high up and slightly open. Although the hæmorrhage diminished, yet the pains recurred at intervals, and he fully expected labor would soon begin. Under the use of equal parts of wine of ergot and solution of sulphate of morphine, she began to get easier, and in a few days was out of bed and able to resume her household duties; feeling more comfortable as the enlarged veins were smaller, her feet and ankles had diminished in size, and the headache was gone entirely. He told her that nature had come to her relief and bled her without his ordering it. Feeling satisfied that this was a case of placenta prævia, and that there was no immediate danger, he concluded that the most prudent course was to let nature alone and wait until labor began. She had no more trouble until May 10th, when she passed a large clot of blood and complained of slight pains in the abdomen. These occurred occasionally for two days, when the membranes ruptured and a sudden gush of water, followed by a flow of blood, indicated that labor had begun. On examination, he discovered within the os a spongy, ragged, bleeding mass of tissue, which was recognized as the placenta; with each pain the flow of blood increased as the cervix dilated. Sweeping his index-finger around within the mouth of the womb, as far as he could reach, to detach the placenta from the uterine walls and assist the first stage of labor, he felt the fetal head beyond. To arrest the bleeding, which, if it continued, would exhaust the mother and destroy the child, he plugged the vagina completely with strips of old muslin well saturated with lard, and waited patiently for the os to dilate and the head to advance, giving at the same time occasional doses of quinine and wine of ergot as a tonic and stimulant. In about an hour the advancing head had expelled a part of the tampon, and, on removing the remainder, it was found that the bleeding had ceased and that the vertex was presenting in the left occipito-posterior position. Auscultation revealed a feeble fetal circulation, but, as the pelvis was roomy and the patient somewhat exhausted, he gave her freely of milk punch until her pulse became stronger, which it did in half an hour, when, as the head had ceased to advance, he applied the forceps and delivered her of a medium-sized girl, which in a few minutes began to cry with some vigor, contrary to his expectations. The child's vitality had been preserved by the adhering part of the placenta, which then came away quite easily. A teaspoonful of fluid extract of ergot contracted the womb firmly. The patient was weak for several days, but, under the use of tonics with nourishing food, she soon recovered her usual strength.

Dr. SMITH remarked that this case, being partial and without profuse hæmorrhage, could have been best carried through by rupturing the membranes and bringing down the head, which would have stopped the hæmorrhage so soon as it engaged in the superior strait. Under what circumstances, he asked, were we warranted in interfering? If the hæmorrhage was alarming and the patient exhausted, she was in a poor condition to bear interference, and, on the other hand, we had no right to interfere if there was no pain or hæmorrhage. To interfere by manipulation was very dangerous, unless the uterine contractions were rapid and effective, after labor had once begun. The

position of the child should be carefully and accurately determined by external manipulation before interference became necessary, so that we might know where to seek the feet, if turning became imperative. When the placenta prævia is complete, dilatation of the os caused a terrific hæmorrhage, the blood streamed from the patient like water from a hydrant or a small fire-plug, and death came very quickly. Only perfect knowledge of the condition of things and the position of the child would enable the physician to avert the doom. Now, as to the tampon, he would not use it. It hid the hæmorrhage, which might be going on profusely behind it, as had been so vividly described by Dr. Goodell, in his paper on "Concealed Accidental Hæmorrhage of the Gravid Uterus," in vol. ii of the "American Journal of Obstetrics," in which he had shown that the woman might bleed to death without one drop of blood escaping externally. The tampon concealed the hæmorrhage without necessarily preventing it, and while it remained in place one hand of the physician should be constantly on the patient's pulse, to notice instantly any failure of the heart, while the other should be on her abdomen, to note any changes in the size of the uterus or the position of the fœtus. In Dr. Taylor's case the treatment was beyond criticism, because the result had been happy.

Dr. GOODELL agreed with Dr. Smith that placenta prævia was the most formidable complication in obstetrics. No general rule could be made applicable to the treatment of all cases. In partial ones the membranes should be ruptured and the head brought down. It must always be borne in mind that in these cases the implantation of the placenta caused increased vascularity and thickness of the cervical walls, that they were easily ruptured, and that, if torn, they bled profusely. There was greater danger of septicæmia from absorption of decomposing lochial discharges when passing over this surface if it was torn. He well remembered one case in which he attended years ago in consultation with the late Dr. Augustin Fish, in which, in consequence of what he now considered undue haste, lacerations of the cervix occurred, and, although the labor terminated happily, septicæmia set in a few days later and resulted fatally. It would have been better in that case to tampon. When the placenta was not central, there was very little danger, but there was some. The tampon might be used, but the pulse must be constantly watched and frequent abdominal palpation should be made. He had been struck with the method practiced by Dr. Ellwood Wilson more than twenty years ago. It consisted in gentle digital dilatation of the os; introducing first one finger, then two, and so on, and, so soon as sufficient space was obtained, giving ergot, and performing podalic version and extraction. Very few practitioners advised that method. Dr. Goodell had not met with many cases, and the one spoken of above was the only fatal one. He had used Barnes's dilators, taxis, strength, and courage, and had tried to adapt his treatment to the indications of each particular case.

Dr. W. H. PARIS thought the tampon was not used so frequently now as it was a few years ago, either in the form of Barnes's dilators or in that of the vaginal plugs. Under similar circumstances he would probably do as Dr. Taylor had done. Partial placenta prævia was not very dangerous, but in complete placenta prævia the hæmorrhage was excessive. In one case he had tamponed for several hours, when, the os being dilated, he etherized the patient and rapidly extracted a living child. The mother was in imminent danger of death from hæmorrhage. The abdominal aorta was compressed, and ice was applied to the cervix, but without success. The hæmorrhage was controlled by the application of a cloth wet with Monsel's solution to the denuded cervical and uterine surfaces.

Dr. TAYLOR had used the tampon in several cases of partial

placenta prævia and in numerous cases of abortion, and had never yet known bleeding to go on behind it. The line of treatment practiced in this case had always proved satisfactory as regarded results.

Dr. GOODELL remarked that the womb at term was large and concealed hæmorrhage might be free enough to cause death, but there was no such danger in an abortion at two or three months.

W. H. H. GITHENS, M. D., *Secretary.*

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.,

LECTURER ON OPHTHALMOLOGY AND OTOTOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY; OPHTHALMIC SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN AND TO THE NURSERY AND CHILD'S HOSPITAL.

THE THERAPEUTIC VALUE OF IODOFORM IN DISEASES OF THE EYE.—Alker ("Arch. f. Ophthal.," xxix, 4) formulates the results of his observations upon this subject: 1. Iodoform is well borne by the majority of patients, in whatever form it may be employed. 2. It is of very marked value in all ulcerative processes in the cornea, especially in those forms of hypopyonkeratitis dependent upon a basis of infection, although there are some isolated cases in which iodoform as well as the transverse splitting of the cornea fails to hinder the total suppuration of the cornea. 3. It acts not only as an antiseptic but also as an aseptic in all recent cases of injury, whether they are accidental or operative. 4. It possesses a positive power of clearing up the opacities of scrofulous pannus and deeper lying infiltrations.

CONTRIBUTIONS TO THE ANATOMY OF THE OPTIC NERVE.—Vossius's article (*Ibid.*) is somewhat lengthy, as are also his conclusions, an epitome of which is here given: 1. The point of entrance of the central vessels into the optic nerve lies from 10 to 12 mm. back of the eyeball, at its lower periphery, in the lower and outer quadrant. This constant relation of the point of entrance of the central vessels should cause no surprise, when we consider the manifold variations of the vascular apparatus, and that in the embryo the fetal ocular fissure is always situated below. 2. In certain animals the central vessels are likewise sunken to the lower periphery of the nerve. 3. A change of position of the point of entrance from its location in the embryo has taken place, by which the fetal ocular fissure comes to lie downward and inward. The rotation of the optic nerves corresponds to an angle of at least 90°. 4. This change of position of the vessels is a powerful support for the old view recently advocated by Manz, that the macula is the remains of the fetal ocular fissure, and does away with the difficulty which exists in the lateral position of the macula. 5. The eyeball also rotates, the rotation being particularly noticeable in the rectus superior, which in the embryo is lateral, but in adults is more under the middle of the orbital roof. The cause of the torsion is the lateral displacement of the ocular vesicle forward in the parallel position of the ocular axes, and the disproportion between the increase in length of the optic nerve and the part that it plays in the length of the orbital axis. By a rotation backward of the optic nerve, the macula and point of entrance of the vessels are again found in their fetal position, downward and inward. 6. While in man the insertion of the optic nerve at the posterior pole of the eye occurs in the lower and inner quadrant, and the long posterior ciliary arteries run nearly accurately in the horizontal meridian, in certain of the mammalia

the optic nerve is inserted outside of the vertical line, while in the cat it is inside. 7. In its intracranial course the nerve receives its arterial supply mainly from the arteria corporis callosi. In the optic foramen, a peculiar vascular and interstitial connective-tissue structure is developed. The arterial vessels arise from the ophthalmic or its muscular branches; its branches lie on the under surface of the nerve. The venous blood passes through the vena centralis posterior into the cavernous sinus, and debouches from the nerve close to the entrance of the latter into the optic foramen. 8. The central retinal artery assists in the nourishment of the posterior orbital part of the optic nerve by means of a moderately large branch which runs backward, and is accompanied by a vein which empties into the central retinal vein. 9. The circulatory and nutritive relations of the optic nerve in the optic foramen, the number of trabecular divisions, the proximity of the nerve-trunks and their union through the medium of the loose meningeal cellular tissue, all favor the occurrence of an inflammation at this spot, a retrobulbar neuritis, which develops in both nerve-trunks at the same time, or in one soon after the other, and which may pass from one nerve to the other without involving the chiasm. The inflammatory process is most pronounced in the central region of the cross section in which the macula fibers lie, and hence the nerve-bundles in this region are more hindered in their function than the peripheral fibers. This is explained by the fact that the trunks of the entering vessels are found at the periphery of the optic nerves, while their capillary terminations are found in the center.

ON THE OPHTHALMIA PRODUCED BY JEQUIRITY.—Von Hippel's article is a fair judicial criticism of the views promulgated by von Wecker and others as to the value of jequirity in the treatment of obstinate granulations and pannus (*Ibid.*). He disagrees with Sattler's view that the jequirity-ophthalmia is an infection disease. He thinks that the characteristic conjunctivitis may always be produced by the application of the infusion, but that the intensity of the inflammation is less after instillation than after the direct painting of the everted conjunctiva with the infusion. A dosing of the inflammation, by frequent or infrequent application, by the use of stronger or weaker concentration of the infusion, is only possible within wide limits. As a rule, the ophthalmia is the more intense the longer and more frequently the agent acts upon the conjunctiva. The artificially produced jequirity-ophthalmia can not be regarded as absolutely safe for the patient, while the pain of the application does not specially commend it as a therapeutic agent. In fresh trachoma the old treatment by iced applications and silver nitrate or cupric sulphate is much more successful and less dangerous and annoying to the patient than the treatment by jequirity. In the inveterate forms of pannus, in which the conjunctiva is pale and extensively covered by hard, yellow granulations above the level of the mucous membrane, the case is very different. Here the jequirity treatment gives good results, for the great hyperæmia and serous infiltration of the lid which accompany the action of the drug exert a beneficial influence upon the retrograde metamorphosis of the granulations, causing them in some cases to entirely disappear, without producing much shrinking of the conjunctiva or distortion of the lids. Pannus is also acted upon favorably by the jequirity infusion, and thus the vision is very often materially improved. Hippel has, however, never been able to bring about favorable results in so short a time as Wecker states, and in most of his cases from three to four months elapsed before the granulations disappeared. Good results are also gained by jequirity in cases of trachoma ending in consecutive atrophy and shrinking of the conjunctiva and dense, opaque pannus of the cornea. Von Hippel does not admit Sattler's view of an infection disease because of the ab-

sence of a stage of incubation. Moreover, if the jequirity-ophthalmia were an infection disease, the secretion or small bits of the croupous membrane, on being transplanted to a healthy eye, would here cause the same inflammation, but this von Hippel has never succeeded in producing. So long as no one has succeeded in demonstrating definite peculiarities of form and development which distinguish the jequirity bacillus from all other bacilli, it can not with justice be regarded as specific. Hippel does not regard Sattler's experiments in the cultivation of the jequirity bacillus as entirely successful, for in the conjunctival inflammation produced by it "the enormous swelling and board-like hardness of the lids" were conspicuous by their absence. He explains the peculiar action of the jequirity-bean in producing a severe conjunctivitis as due to the presence in the bean of a chemically different substance or an undeveloped ferment, which by contact with the conjunctiva excites in it a violent inflammation.

THE EXPERIMENTAL PRODUCTION OF SYMPATHETIC OPHTHALMIA.—Deutschmann (*Ibid.*) here contributes a second article upon this subject, of which the following is a résumé: A sympathetic ophthalmia has experimentally been successfully produced in the rabbit—that is, after infection of one eye of an animal, the other eye became spontaneously affected after the lapse of a certain time. The affection of the second eye began with an inflammation of the intraocular end of the optic nerve, as was proved by the ophthalmoscope; thence it spread to the retina and vitreous, and finally to the uveal tract. Hence the optic nerve and its sheaths must be recognized as the channel of extension for the sympathetic affection, but it is not possible to decide whether the nerve or the sheaths are the more involved. The inflammatory symptoms in the channels of extension are but transient; only in the beginning do they have any degree of intensity, and they soon diminish when they have effected their purpose in infecting the second eye. It is probable that a later stage might be recognized in which the channels of communication would be found entirely free of all signs of inflammation. But the propagated inflammatory process spreads where it finds a suitable surface in the second eye, and also on the surface of the pia mater at the base of the brain.

INFLAMMATION OF THE CAPSULE OF TENON.—Bergey (*Ibid.*) has had the opportunity of examining a phthisical eyeball which had been lost from inflammation of the capsule of Tenon. The inner lamina of Tenon's capsule was thickened, its fibers were loosened, and in places infiltrated with round cells. Upon the surface of the capsule there was a layer of connective tissue, consisting of undulatory fibers with numerous longitudinal and fusiform nuclei, and some round cells. This newly formed connective tissue was traversed by newly developed blood-vessels, which communicated with the blood-vessels of the sclerotic and inner lamina of Tenon's capsule. Between the fibers of connective tissue were masses of endothelial cells with two nuclei and nucleoli. The tendons of the ocular muscles were surrounded on both outer and inner surfaces by this newly formed connective tissue, but no change was noticed in the tissue proper of the tendons. Careful examination showed that this newly formed connective tissue extended backward nearly to the optic nerve, and was prolonged into the supra-vaginal space which connects with Tenon's lymphatic space. The result of the inflammatory process is complete obliteration of Tenon's space by this exudation, which must exert considerable compression upon the vasa vorticosa.

CLINICAL KERATOSCOPY.—Wecker and Masselon ("Annales d'oculistique," Nov.-Dec., 1883) present a modification of a previous instrument of Wecker for determining errors of refraction, especially astigmatism. In the modified instrument the two opposite sides of the square may be caused to approach

each other, right and left, by means of a screw, and it is possible in a case of regular astigmatism to transform the square into a rectangle in such a way that it is reflected upon the astigmatic cornea according to a square. This transformation is accomplished after a certain number of turns of the screw, which also cause a runner to move simultaneously along a graduated scale, which indicates in dioptries, or fractions of a dioptric, the displacement of the sides of the instrument, which it has been found necessary to produce, in order to give a perfectly square reflection upon the astigmatic cornea. By employing this instrument, the inventors profess to have done away with the necessity of a registering astigmometer or keratoscope, and at the same time are enabled to demonstrate plainly to students the deformity of the reflection produced by corneal astigmatism. They have also found that corneal opacities, uncomplicated with facets, almost always give rise to a sensibly regular and correctable astigmatism.

ASTIGMATIC KERATITIS.—Martin (*Ibid.*) contributes a second article on this subject. Many cases of severe and repeated keratitis are complicated by a high degree of astigmatism, and they occur so often as to force upon us the conviction of the existence of a union of cause and effect between the asymmetry of the cornea and the appearance of so-called scrofulous keratitis. The degrees of astigmatism which are met with in cases where blepharitis exists alone are always small, and hence, probably, they have not been deemed capable of causing inflammation of the lids. The unequal contractions of the ciliary muscle, provoked by the astigmatic state of the cornea, have only been recognized for a comparatively short time. Another difficulty in the way of positively admitting the diagnosis of astigmatic blepharitis was found in the comparative rarity of inflammation of the ciliary margin of the lids in persons who were known to be astigmatic; and this same difficulty has existed in the matter of astigmatic keratitis. Of course, not all the persons who have what is commonly called scrofulous keratitis are not astigmatic; nor are all patients with keratitis and astigmatism scrofulous.

THE DOWNWARD OR INFERIOR CONUS.—Szili ("Centralblatt f. prakt. Augenheilk.," Dec., 1883) has been investigating the conus which is found at the inferior margin of the optic disc in some astigmatic eyes, with special reference to the form and degree of astigmatism. He thinks that in the majority of the cases the astigmatism is due to the conus in this direction. A considerable portion of the lower half of the posterior wall of the eye is distended with the conus, and bulged out backward to a corresponding degree. The entire profile of the optic nerve seems more or less so rotated on its axis that its upper part has the appearance which resembles the so-called inner half of the disc in normal eyes, while correspondingly the external half of the papilla seems to have become the lower. The direction of the conus, more or less downward, sometimes downward and inward, and the physiological excavation, when the one or the other or both are present, correspond exactly to this rotation, and so does the arrangement of the central vessels. As far as the trunks of these vessels are visible, they show usually a somewhat oblique direction from above and outward, downward and inward; the branches running upward divide at a much more acute angle than those running downward, and in their further course seem to fit themselves to a shorter cut than the inferior vessels.

UNILOCULAR CATARACT WITH AN ANOMALOUS CONDITION OF THE BONES OF THE SAME SIDE.—Heuse (*Ibid.*) reports a third case of this kind. The cataract was in the right eye, and was of the posterior polar character, with four short lateral processes, and at the center it extended toward the center of the lens like a short cone. In the anterior laminae of the lens there

was a striated opacity, which had no visible connection with the polar cataract. The left eye was normal. The patient was a boy, four years old, with divergent squint. On the right side of the forehead there was a large projection or swelling, which, on examination, proved to be a rachitic bulging of the bone, had appeared during the first year of the child's life, and at the same time there was a marked rachitic development of the right side of the chest.

A NEW METHOD OF DETERMINING THE REFRACTION OF THE EYE IN THE UPRIGHT IMAGE.—Burchardt (*Ibid.*) recommends a method of determining the refraction, which he considers valuable in many cases, especially as a method of control. He employs, instead of a candle-flame, opaque black letters printed upon a translucent plate of glass. The spaces between the letters are illuminated by a light made up of rays approximately parallel, and the sharp image of the letters thrown upon the retina of the eye was used to determine the refraction from the position of the glass plate. In making the examination, to the exact understanding of which a drawing is necessary, he employs a bright light placed in the focus of a lens; a translucent glass plate with the black letters running on a horizontal bar which is graduated in centimetres; a second convex lens of 10 cm. focus, and a perforated plane mirror. By means of a band of 10 cm. in length, which starts from the upright support of the second convex lens, and passes round the handle of the mirror to the cheek of the patient, the latter's eye may readily be placed in such a position that its distance from the mirror, plus the distance of the lens from the mirror, is equal to 10 cm. The graduated bar is fastened on a movable standard, so that the source of light, the centers of both lenses, the movable letters, and the hole in the mirror are all in the same line.

THE ASSOCIATION OF SENSATIONS OF TASTE AND SMELL WITH COLORS, AND THE ASSOCIATION OF SOUNDS WITH SENSATIONS OF FORM.—Hilbert ("Klin. Monatsbl. f. Augenheilk.," Jan., 1884) reports another case of this singular anomaly in the person of a young woman, aged twenty-four, who came of a healthy family and had never had any disease of the nervous system. The double sensations had been experienced in early childhood. A sensation of color was not excited by every sensation of smell or taste, but only by unpleasant odors or tastes, probably because the latter caused a stronger irritation. The taste of one unpleasant kind of beer excited the sensation of brown, while another excited the sensation of gray. In the same way an ugly brown was produced by the taste of burned sauce used in roasting. The characteristic odor of young dogs likewise produced the sensation of brown. The odor of old cheese was associated with the sensation of brownish-green, while the taste of the same cheese produced a sensation of yellow. Slight sensations of taste and smell excited bright colors, while intense sensations of the same sort produced deeper colors. The playing of certain melodies produced sensations of forms, especially of persons, and the latter were associated with sensations of certain sounds.

DOES MECHANICAL IRRITATION OF THE TRUNK OF THE OPTIC NERVE PRODUCE A SUBJECTIVE LIGHT-SENSATION?—Landesberg (*Ibid.*) has made in every suitable case during the last three years a careful investigation in regard to the reaction of the stump of the optic nerve to mechanical irritation. The cases in which enucleation had been performed, and which were subjected to examination, were seventeen in number, and the method was as follows: 1. The patients were left entirely in the dark in regard to the object of the investigation. The stump of the optic nerve was pressed upon by a small probe or squeezed with the blades of the forceps, so as not to attract any attention, and the patient was then asked what was experienced during the manipulation. Sixteen persons complained of pain. Only one patient stated that, at the moment of pressure, he

perceived a lightning-like flash in the field of the enucleated eye. 2. The patients were then instructed as to the significance of the experiments, and were urged to observe carefully whether they perceived any subjective light-sensation at the moment of the mechanical irritation of the stump of the optic nerve. Three patients then asserted that on pressure they perceived a sensation of light on the side of the enucleated eye, which they described as lightning with colored, zigzag margins. In thirteen cases all light-sensations were denied. This negative result might depend upon two causes. Either the mechanical irritation of the stump of the optic nerve in these cases really produced no subjective sensation of light, or the mechanical irritation *did* produce such a subjective light-sensation, which was not consciously recognized or mentally seen, from lack of either attention or intelligence on the part of the patient. If it were possible to present to the patient an object of comparison, or visibly demonstrate what was the object of experiment, the result might be somewhat modified. In order to settle this question, Landesberg brought each patient into a darkened room and produced phosphenes by pressure upon the sound eye, and instructed them that he wished to determine whether pressure on the stump of the optic nerve of the enucleated eye also produced light-sensations. At the next trial, four patients stated that they saw flashes of light at the moment of irritation. In nine cases out of the seventeen the result was invariably negative.

THE PATHOLOGICAL ANATOMY OF RETINAL HÆMORRHAGES.—Thalberg ("Archiv. für Augeneheilkunde," xii, 2 and 3) gives the result of the microscopical examination of a retinal hæmorrhagic effusion in the body of a patient who had died of progressive pernicious anæmia. The nerve-fibers beyond the bend at the margin of the disc were thickened and loosened. The blood-vessels, especially the veins and capillaries, were greatly distended, so that in many cases an enlarged vein pushed all the retinal layers forward toward the choroid, or else had so pushed them aside as to tear them, the laceration being filled by a finely granular mass with some red and white blood-globules. Every blood-vessel was surrounded by a mass of blood-corpuscles, and, even where there were no blood-vessels, isolated blood-corpuscles were found in the nerve-fiber layer, the ganglion-cell layer, and the inner granular layer. No rupture in the wall of a blood-vessel could be found, nor any connection between the blood-corpuscles massed in the adventitia and those within the vessels. In cross-sections of the arteries, the lymph-space was only visible in places.

THE ÆTIOLGY AND THERAPEUTICS OF RETRO-BULBAR INFLAMMATION OF THE ORBITAL CONNECTIVE TISSUE.—Pagenstecher (*Ibid.*) reports a case of this nature occurring in a boy, aged nine, which he thinks was due to a spread of the infection from an inflamed maxillary sinus. The case is of interest, though too long to report in full. There was but little reliance to be placed on the statements of the patient, and there was no proof of any inflammation of the periosteum at the root of the extracted molar; but there was little doubt of a direct connection between the disease of the tooth and the inflammation in the orbit. The extraction of the tooth certainly produced a marked improvement in the orbital inflammation. Inflammation of the orbital cellular tissue by direct infection from a diseased tooth, through the medium of the lymph-channels, though of rare occurrence, is so certain a pathological fact that, in every case of cellular inflammation of the orbit, a careful examination should be made of the buccal cavity, alveolar arches, and maxillary sinus; and, where diseased molar teeth exist, they should be extracted, if the caries or abscess can not be reached in any other way.

AN OCULAR LESION AFTER A STROKE OF LIGHTNING.—Pagenstecher (*Ibid.*) reports the history of a child, aged ten, who was

struck by lightning, and remained unconscious for a number of hours. Then an attack of vomiting set in, and consciousness slowly returned. Very soon the eyelids became swollen, and, several days later, when seen by a physician, the levator palpebræ was paralyzed, though the vision was apparently intact. About a year later, however, there was noticed a distinct loss of vision. When Pagenstecher saw the case, vision was as follows: R. E. Jäger 24; L. E. Jäger 19, and $\frac{6}{60}$. Both corneæ were clear. The right pupil was irregular, long oval, and dilated, and reacted slowly to direct light, but rapidly to reflex influence. Atropine produced but little influence, while eserine quickly produced myosis. The left pupil was circular, and reacted promptly to light. In the posterior cortex of both lenses was a large, irregularly quadrangular, sharply defined, dense opacity, somewhat larger in the right eye than in the left. The rest of the lens in each eye was clear. The fundus could not be accurately seen, but the visual field was normal. The right lens was subsequently needled, and, after three months and a secondary capsular operation, a clear pupil was gained, but no improvement of vision resulted. The fundus appeared still veiled; but there was no white atrophy of the optic nerve.

Miscellany.

THE COMPOUNDING OF PRESCRIPTIONS BY PHYSICIANS.—Dr. L. S. Blackwell, of Perth Amboy, N. J., writes to us expressing his conviction that, in view of the frequent occurrence of alarming results, and even death, from the accidental administration of poisonous doses of drugs—a matter on which we lately commented—the adoption of measures to reduce errors on the part of physicians and apothecaries to the minimum deserves serious consideration. Although, he says, of the five cases to which reference was made in our article, the mistake occurred in the physician's prescription in two, and from having a bottle incorrectly labeled in another, it has not been shown that the results would have been the same if the prescription had been compounded by the physician. In its preparation there would have been an association of ideas in the prescriber's mind, in regard to the harmony between the symptoms and the therapeutics of the case, which would have pointed to the existence and rectification of any error in the phrasing of the prescription. He adds that, if the mistake is made by the physician, with the prescription in the hands of the apothecary, "the element of safety" is not apparent to the prescriber.

Dr. Blackwell advocates the practice of physicians preparing their own prescriptions, and he argues—quite correctly, we think—that advantages would result from the time that could be given to reflecting on the case between the visit to the patient and the return home, apart from the consideration that the prescription would then be written under circumstances that would tend to guard against the prescriber's mind being distracted by interruptions. He remarks that his plan would do away with the need of rousing a dispensing clerk at night, with the certainty of considerable loss of time and the risk that naturally results from having a prescription put up by a sleepy and perhaps half-conscious man. For himself, he has followed the plan of preparing his own prescriptions for the past quarter of a century, and states that he can not recall a single instance of error. He does not think that this experience differs materially from that of others who have followed a like course—a course which, he believes, possesses advantages and furnishes greater security both to patients and to physicians.

A DENTIST'S SOLICITUDE.—"LYON medical" tells the following story: A dentist is extracting a molar. "Don't cry out like that," he says to the patient. "You suffer at seeing me suffer," replies the patient. "No, I'm speaking on account of the neighbors." "Does it disturb them?" "If that were all! But it takes away their confidence."

Lectures and Addresses.

THE OPENING ADDRESS

BEFORE THE

AMERICAN CLIMATOLOGICAL ASSOCIATION.*

By FREDERICK I. KNIGHT, M.D., BOSTON,
First Vice-President.

GENTLEMEN OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION: It was with exceeding regret that I learned, a few days ago, that our president would be unable to attend this the first regular meeting of the Association, and that I was asked, in consequence, to preside over your deliberations. From him, who has been so long interested in the study of climatology, we had expected, besides his valuable aid in organization, to receive much counsel in regard to the direction of our future observations and work. I am sure you will all join with me in sending him our regrets, greetings, and hopes for his speedy recovery.

Our professional brethren will probably look to the minutes of our first meeting as to the preface of a book, to see what reason we can give for our existence, for creating ourselves an independent organization. Our answer is that we believe that more can be accomplished by a small body of thoroughly interested men, working independently in a limited field, rather than as a part of a great combination; and, although there is less objection to the grouping of climatology with State medicine and hygiene than in classing together in one section such totally distinct specialties as ophthalmology and laryngology, we feel that the interests of climatology will be better served by its isolation. It so happened that the gentlemen who responded to the call to organize this society were particularly interested in one class of diseases, and expressed their desire at the preliminary meeting that the object of the Association should be the study of climatology and the diseases of the respiratory organs. Climate is, however, just as potent in working changes in other parts of the economy as in the domain of the respiratory organs, and it may be questioned whether it is advisable to extend our study, if we wish it to be most effective, beyond what can be legitimately included under climatology and medical geography.

One of our first objects in attempting to revive and further a knowledge of climatology should be to place before the general profession, for every-day use, well-known and indispensable facts about climate. This should include not only information about localities and the general indications for their selection as places of resort, but also of the ways of travel, and the accommodations for living after arrival at them. For climate is but an adjuvant, and can accomplish comparatively little without proper food and shelter for patients. The houses of the natives in warm climates are built to be cool in summer rather than for warmth in winter, and, moreover, a person leaving a cold climate has often become accustomed to a much warmer house than would

have been essential to his comfort if he had lived in a milder climate. Notice, as bearing on this point, the fact that we heat our houses in the spring long after the temperature has reached the grade at which we had no fires in the autumn. So it happens that houses in the South which will be comfortable for the Northerner are often hard to obtain. Most of the hotels, however, are now well constructed. Something definite also should be known about the food available at the locality chosen, the means of obtaining such material as the patient requires, if he is to keep house for himself, and especially the methods of preparation, if he must depend on hotels and boarding-houses. In most cases also we should be sure of being able to secure good medical supervision of our patients, as essential to their complete welfare.

During the past thirty years the mind of the medical practitioner has been absorbed in the pleasure and satisfaction of exact diagnosis, to the detriment of the art of therapeutics, except when exact diagnosis indicated a pretty certain remedy. But that art of therapeutics which looked for its indications in combinations of symptoms, many of them, perhaps, subjective, and which was often apparently but a palliation of symptoms, has undoubtedly declined. We have inquired earnestly enough what is the matter with our patients, but not carefully or earnestly enough "what can we do to cure or relieve them?"

I admit that this branch of medicine is often dull and unsatisfactory, but it is that for which we are taking the community's money, and they are entitled to the best possible return. In this decline of the study of therapeutics the knowledge of climate has suffered, and the extent of the advice which most practitioners offer to-day is, "Try a change," or "Go South." We sometimes even hear it asked if change of climate can make much difference, after all, in the patient's condition. One of my instructors in therapeutics used to say, "If you don't believe that drugs accomplish anything in the human system, take an overdose of some of them." I should point the doubter about the effects of climate to the changes in the types of man produced by residence in different quarters of the globe, and especially to the cumulation of effect seen in succeeding generations, and notably in the change in the families of immigrants to this country, so great and rapid that in one or two generations we often fail to detect their ancestry. In extending our knowledge of this subject, our own members will occupy a vast field with almost every variety of climate, which has been as yet but little explored. It is unnecessary to point out to gentlemen here the factors of climate which require investigation, elevation, temperature, moisture, ozone, forests, soil, winds, sunlight, the vicinity of large bodies of water, etc. We must study the effect of these factors not only on the disease which may seem to indicate the change of climate, but upon the healthy organs of the patient also; and, if a permanent change is to be made, the probable effect of it upon other members of the family, especially the children, for it is often the children who derive the greatest benefit from a well-advised change of abode. Something can be done by our members, I hope, especially by those

* Read at the first annual meeting, held in Washington, May 3 and 5, 1884.

who reside at health resorts, to increase the comfort of invalids at these stations. Advice as to the construction of hotels and the food-supply should be freely given, even if it has to be volunteered. I think that in many localities the cottage plan might be adopted with benefit—i. e., instead of patients with all diseases and in all stages being crowded together under one roof, they should be put into small cottages about the main hotel, on which they might depend for their meals, but which cottages should be so arranged that they could keep house in them if they so desired. I hope that our health resorts may gradually approximate those of Europe in comfort and luxury, so that our patients will no longer look forward to a visit to those of Europe with pleasure, and to a visit to our own as a kind of banishment to be endured for the sake of health.

And now let me say one word about the management of the association. If a narrowing of the field of labor is good for us, so also is the limitation of the responsibility of running the society. It is of no use to try to manage the routine business by means of a committee composed of men residing, perhaps, at long distances from each other. The one-man power is what is wanted. We want a man to run the association who is elected for a term of years, or, better, perhaps, who is re-elected from year to year, unless there is some objection to him. This officer can best be the secretary and treasurer, as he keeps the minutes, and naturally has the best knowledge of the affairs of the association. He should be constituted executive officer of the association, and be expected to make preliminary announcements, secure papers and the attendance of members, get up programmes of the meetings, and, in fact, make every meeting a success.

Without such a head we shall fail. When you can find a good man to undertake this work, don't resent being "bossed" a little by him, but let him have what glory there is in running the association, for he will have earned it. The place of meeting will naturally come before you for discussion, and, while not wishing to anticipate the discussion, I can not help expressing my feeling that, inasmuch as it is very desirable for us to have at our sessions representatives from all parts of this country, especially from the far West and South, we shall be able to secure this best by frequently meeting at the same place with the American Medical Association.

And now, after these brief, desultory remarks in the way of an introduction, let me bring you, without further delay, to the regular papers of the day.

THE INTERNATIONAL CONGRESS FOR HYGIENE AND DEMOGRAPHY.—Besides the International Medical Congress at Copenhagen in August, the International Congress for Hygiene and Demography will assemble for the fifth time, from the 21st to the 27th of the same month, at the Hague. Judging from the programme, which has been published at great length in the French medical journals, many papers of the highest interest are likely to be discussed, among them, one by Dr. Pasteur, on "The Attenuation of Virus"; on "Temperature within the House," by M. Emile Trélat; on "Water Supply," by Dr. Crocq, of Brussels; and "Science the Enemy of Disease," by Professor Corfield. The first section will be devoted to general and international hygiene; the second, to that of towns and rural districts; the third, to personal, and the fourth, to professional hygiene. Information may be obtained from Professor Overbeck de Meijer, of Utrecht, the general secretary.—*Medical Times and Gazette*.

Original Communications.

THE TREATMENT OF EPILEPSY.*

By LANDON CARTER GRAY, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASE, NEW YORK POLYCLINIC; PHYSICIAN-IN-CHIEF TO THE DEPARTMENT OF NERVOUS AND MENTAL DISEASE, ST. MARY'S HOSPITAL, BROOKLYN.

I HAVE been surprised, in passing among medical men, to learn of the prevalence of the belief that the treatment of an epilepsy is either useless or only temporarily beneficial. Had this opinion been confined to the ill informed smatterers who saunter into every calling, and who can be found upon occasion even in our learned profession, I should not have wondered; but I have also found it largely among earnest, honest, well-read practitioners, whose knowledge of general medicine and surgery was fairly equal to the emergencies of their career. Yet it was, as is usually the case, pure lack of reflection that made me feel surprised. Neurology is the latest of all the specialties. Ten years ago but a few colleges in the United States had any systematic course of instruction in nervous disease; and even today, while gynecology, for instance, is made to rank in importance with midwifery, and graduates go forth flourishing a speculum with a nonchalance that has been bred in many lectures and many operations, the broad and complex study of mental and nervous phenomena is relatively disregarded, unless the eminence of some particular lecturer should gild his specialty with a local splendor. Only lately has it been, moreover, that text-books upon the subject have been sufficiently salable to kindle the desire of publishers. Probably, too, great as has been the development—almost entirely in Germany and France—of knowledge in the anatomical, physiological, and pathological aspects of neurology and psychiatry, made with such scientific elaboration and deliberation as have been rendered possible by magnificently endowed and equipped institutions of learning, enough time has not elapsed to naturalize the specialty in England and America for the utilitarian and therapeutic purposes which are more in consonance with Anglo-Saxon habits of race and social organization. The physician, therefore, who, uninstructed at the start, has left a medical school to plunge into the active duties of practice, has not had conveniently at hand the wherewithal to supply him with the well-sifted information which he can readily obtain upon other professional topics. I have consequently been led to conjecture that a paper upon the treatment of a disease so baneful and so frequent as epilepsy would be of interest to many, and possibly also of service, should the modifications and regulations which clinical experience has taught me to make in regard to many familiar details prove as timely as I have fondly believed them to be.

There are certain peculiarities about epilepsy with which one should be acquainted before justifiable deductions can be drawn from any method of treatment, and these have been almost entirely overlooked by authors.

* Read before the Medical Society of the County of Kings, May 20, 1884.

In the first place, epilepsy is a very mobile disease. By this I mean that it reacts very readily to impressions made upon it, whether those impressions travel to it from the stomach, along the nerves of general or special sensation, or from the cortex of the cerebrum. Almost any change of treatment will produce a temporary effect. Hence it is that so many remedies have been vaunted for its cure. Hence it is that M. Brown-Séquard thought he obtained better results after adding the bromide of ammonium or the bromide of sodium to the bromide of potassium, just as Dr. E. C. Seguin has lauded the addition of chloral hydrate to the bromide of potassium. Hence it is that trephining, removal of cicatrices, operations upon the male and female genitals, and nerve-stretching, have brought a seeming success for the time being, and interjected so many false data into our therapeutics. I am somewhat given to referring to the case of a chronic epileptic in one of our city institutions who, being subject to convulsions every few days, fortunately fell into a tub of hot water, burnt himself severely, and had never a fit for upward of a year. After I had been teaching this mobility of epilepsy for some time, I came across the following passage in Esquirol's great work, showing that the fact had been familiar to him, although it would seem to have escaped the attention of all other writers upon the subject: *

"I have treated three hundred and eighty-five women or girls, of all ages, past puberty, belonging to the poorer classes. Of this number, forty-six were hysterical and three hundred and thirty-nine epileptic; the majority were more or less chronically insane. . . . I desired to test the efficacy of the most varied remedies. I tried successively blood-letting, purgatives, baths at every temperature, issues, the caustery, moxas, antispasmodics—both vegetable and mineral. I stopped with hydrocyanic acid. I procured or bought the secret remedies. Every spring and every autumn I chose thirty epileptic women with whose disease I was best acquainted, as regarded the past, the causes, and the symptoms. These women were prepared in advance by exciting their imagination by the repeated promise of a certain cure. I was efficiently seconded by the nurse and the internes. In all cases a new medication suspended the attacks during fourteen days in some, during one month or two in others, and even three months. After this period the attacks reappeared successively in all the women, with the characteristics which they had presented for years before. Several of our epileptics were subjected to my experiments for years; but I must confess that I was unable to obtain a cure. In my private practice I have been scarcely more fortunate; if the attacks were suspended, it was less from the action of the medicaments than from the effect of the confidence which led the patient to consult a new physician. . . . Authors have mistaken for cure the spontaneous suspension of the attacks, or their suspension by the action of every new remedy; the error is the more possible because the patients are lost to the sight of the physician, who is not consulted upon the return of the paroxysm."

And then this thoughtful and patient student of diseased nature cites a number of cases in support of his views. Among them this one, which may be *apropos*:

"The Prince of —, epileptic since early youth, would permit no one to wait upon him, in spite of the entreaties of his family. With the progress of age the attacks became more fre-

quent; when fifty-seven years old, the Prince was taken with a paroxysm, during which his head fell into the fire. The burn, charring the scalp, penetrated to the external table of the parietal bones. An abundant suppuration was established. The wound was kept open by a bit of necrosed bone. The patient, becoming impatient, sought the aid of a surgeon, who removed the bony fragment, when the cicatrization proceeded rapidly, and was completed in forty-two days. During this time the patient had no attack, but immediately after the healing of the wound the fits recommenced."

Epilepsy is very often quasi-periodical. The ensuing cases will best illustrate my meaning:

K. T., aged fifteen, girl. Grand mal for two years. Attacks about every six weeks, *always, with two exceptions, between 7 and 8 A. M.*

E. G., male, aged twenty. Grand mal for eighteen years and a half. Attacks daily, *always, with three or four exceptions, upon rising from bed in the morning.*

R. C., aged nine, female. Grand mal over a year. Fits several times weekly, *invariably between 11 P. M. and 7 A. M.*

P. S., aged eleven, female. Grand mal for over a year. Attacks generally once in the month, occasionally twice, *always about 7 A. M.*

W., aged thirty, female. So-called "Jacksonian epilepsy" for fifteen years. *Twitchings always between 12 P. M. and 4 A. M.*

D. M., aged forty-one, male. Grand mal for three years. *Attacks always between the seventeenth and twenty-fifth of the month, and always between midnight and breakfast time.*

Female, aged nineteen. Grand mal for six years. Attacks at the menstrual period, generally about the first of the month.

Male, aged twenty-nine. Fits always one half to three quarters of an hour after rising in the morning.

Male, aged twenty-five. Fits about the time that the moon is becoming full.

Male. Has had three fits, each about eighteen months after the preceding one.

In what proportion of cases this quasi periodicity occurs I am, unfortunately, not able to say, since the cases in which I have sought it, and in which the memory of the patient or the patient's friends has been reliable, have not exceeded forty, a number too small for a scientific deduction of this kind. Of this forty, however, nine manifested these symptoms. I regard it as scarcely necessary to state that I have always carefully excluded malaria as a possible cause of this quasi periodicity.

Epilepsy is often inter-convertible with migraine; that is, a migraine will often have its place taken by an epilepsy, and *vice versa*; and, in individuals hereditarily or personally predisposed to epilepsy, migraine will often precede the graver disease by months or years. I am inclined to believe that the majority of patients with migraine will have occasional losses of consciousness, attacks of great dizziness, or other nervous symptoms that are of a graver type than the mere migraine.* While these facts are not unknown to

* By migraine I mean that form of headache, usually unilateral, which recurs in certain individuals at regular or irregular intervals and lasts from twelve to twenty-four or thirty-six hours, occasionally even longer. It is to be distinguished from neuralgia by its relatively short duration, by the persistence of these recurrences through years, by the prostration attending it, usually profound, by its gradual increase to a culmination which is characterized by severe, generally agonizing pain, and also, as a rule, by emesis.

* "Maladies mentales," etc., Paris, 1838, t. i, p. 136.

neurologists, they may be new to many of my readers, and the ensuing histories may be pertinent:

Male, aged forty-five. Has had migraine since he can recollect. Two sisters subject to it. Four years ago began to have epileptic convulsions—grand mal. Became rapidly worse; developed occasional attacks of furor epilepticus, and is now a hopeless epileptic, dangerous at all times because of certain fixed delusions, and uncontrollable when the mental aberration appears.

Female, aged fifty-three. Migraine for five years. During last year has had, toward the latter end of the attack, violent movements of the muscles of the trunk, so that the body is violently straightened up into an erect attitude.

Female, aged twenty-three. Been subject to migraine ever since she was a little child, coming on once or more weekly. Has lately, since birth of last child, become, temporarily, almost blind during these headaches. Father was subject to migraine. For the last week has had attacks of "fainting," in which she does not entirely lose consciousness, but is unable to move. These come on suddenly, without apparent cause, and have greatly alarmed her.

Male, aged thirty-six. I know nothing of the hereditary history. Has been for many years subject to severe and well-marked migraine. In last two years has had two attacks, consisting of sudden loss of consciousness, so complete that patient fell, injuring himself, and had no recollection afterward of the occurrence.

Female, aged thirty-four. One sister was an epileptic and was insane for some years before death. Mother died of apoplexy. All her life subject to migraine, generally severe in character. Has repeatedly, while the headache is upon her, lost consciousness of her surroundings, so that several hours remain a blank to her; and she has, upon a few occasions, been mildly maniacal immediately after a headache—i. e., after the culmination in emesis has taken place and the pain has become bearable.

Female, aged about forty. Subject to migraine since childhood. Latterly has had epilepsy, grand mal mainly, occasionally petit mal. Has been coming to my clinic for some two years. Whenever her epilepsy grows worse, the migraine improves, and *vice versa*. One alone being treated, the other grows worse. When both are treated, she goes for long periods without fits or headache.

From a prognostic point of view, however, there is a vast difference between these epileptiform attacks occurring in migraine and true epilepsy. The baneful effects of true epilepsy upon the mental structure are familiar to us all. The gradual weakening of all those delicate and only peripherally describable mental manifestations which lift a human being to the higher planes of intelligence and constitute what we English-speaking peoples have agreed to call "character"; the gradual passage into absolute dementia; the supervention of convulsions or attacks of *petit mal* that seriously interfere with the active businesses of life—all these, which are so frequent in true epilepsy, are very infrequent in migraine. Fortunate, indeed, is it that this is so, for migraine is a very widespread disease, and scores of the most active and useful human beings among us are the bearers of it. If I were at liberty to do so, I think I could read off a startling list of names of sufferers to be found in many different walks of life in this city of Brooklyn. Perhaps I can give you a better idea of how I

have come to regard migraine if I tell you where I classify it. I regard epilepsy as a nervous disease of very serious import to the mind, and, at times, to the general nervous system. I regard neuralgia as a nervous disease localized in one nerve or one set of nerves, and whose prognostic importance is usually only that of the pain which is produced. I place migraine midway between epilepsy and neuralgia—a localized neurosis, so to speak, or a neuralgic neurosis, or a neurotic neuralgia. Most cases remain midway between epilepsy and neuralgia, manifesting more severe symptoms than a mere neuralgia, but yet not so severe as those of epilepsy, occasionally, however, when the attacks are more frequent or more painful than usual, manifesting epileptiform symptoms. This is the type. But many cases approximate more nearly in character to neuralgia, frequently differing from it for years only in the relatively short duration of the attacks, the irregularity and often the suddenness of their onset, the tendency to commence as a vague feeling of weariness or unrest, generally in the morning, the culmination, in a few hours or toward night, in sharp pain, with or without nausea, and the relative triviality of the causation, such as moderate fatigue, a change in the barometer or thermometer, some passing emotion of more than ordinary intensity, some slightly unusual excitation of a special sense, as a disagreeable odor, straining of the eyes, etc. Finally, there are some quite exceptional cases in which the symptoms partake strongly of the epileptic character, or else the migraine actually becomes inter-convertible with true epilepsy, as in the cases which I have narrated. I have, therefore, called attention to this kinship between migraine and epilepsy, not so much on account of the prognostic aspect of the matter—although, as we have seen, that can not be entirely disregarded—as because of the therapeutic considerations, of which we shall take account further on.

The frequency of epileptic fits varies enormously in different persons and at different times, as is shown by the history of a number of my cases, taken at random from among those in which the course of the disease had not been altered by treatment, so far as I have been able to ascertain:

1. Fits about every six weeks. Duration two years.
2. Before six years ago only one or two fits yearly; lately once weekly, occasionally two weekly; sometimes goes over the month; once free for nine months while at the clinic, while under treatment with the bromides. Duration eighteen years.
3. About once in three weeks. Duration four years.
4. Several weekly. Duration one year.
5. Three or four daily for the first three months; since then once weekly or biweekly. Duration four years.
6. Duration six years. Formerly two or three daily; now once monthly, about the menstrual epoch.
7. Duration about two years. About one weekly.
8. Duration six years. For three years, four or five monthly; during next two years, one or two yearly; in last year, two.
9. Duration ten years. Second fit about nineteen months after the first; third, eighteen months after; next, after one year's interval; then for some time—not more definitely stated—about three to four months; then none for fifteen months; since, about once in three or four months.
10. Duration twenty-nine years. At first three fits in six

weeks, then none for ten years; but muscular twitchings, without any loss of consciousness, often several times in the week; then seven violent fits in succession; was unconscious several hours; then none for three years, but twitchings; for next five years, one every two to three months; no fit for six years, but twitchings; for two years one every two months; in last three years about four fits, but no muscular twitchings.

11. Duration fourteen years. About three monthly.

12. Duration about four years. Fits vary in number from one weekly to seven daily.

13. Duration about one year. At first about two weekly; then free for seven months.

14. Duration two years and a half. Never two weeks without them; occasionally several in a week.

15. Duration fifteen years. About one a month.

16. Interval between first and second fit over five years; interval between second and third fit, fifteen years; then about two monthly; then once in four or five months; eight in the last thirteen months.

The periods of time that elapse between the first and second fits are extremely variable, extending, at times, over years. Thus Gowers* has analyzed 160 cases with the following results:

Interval between the First and Second Severe Fit in 160 Cases of Epilepsy.

Less than 1 week.....	18	55 cases under one month.
1 week to 1 month....	37	
1 month to 3 months..	13	
3 months to 6 months..	21	52 cases more than a month and less than a year.
6 months to 1 year....	18	
1 year to 2 years.....	18	
2 years to 3 years.....	6	53 cases more than a year.
3 years to 5 years.....	7	
Over 5 years.....	22	

Viz:

6 years.....	3 cases.
7 years.....	9 cases.
8 years.....	1 case.
10 years.....	3 cases.
11 years.....	1 case.
14 years.....	1 case.
16 years.....	1 case.
18 years.....	2 cases.
20 years.....	1 case.

"According to these figures," continues the author, "in one third of the cases the second attack occurs within a month; in another third it is postponed until after a month, but occurs within a year; while in the remaining third more than a year elapses between the first and second fit. I think it probable that these figures exaggerate the relative frequency of prolonged intervals, since in such cases the facts are more likely to be noted; but they serve, at any rate, to show that the risk of a second fit remains considerable for at least twelve months after the occurrence of the first fit, and that, although it rapidly falls after the second year, it does not practically disappear until after ten years have passed, while cases are occasionally met with in which a still longer period—fourteen, sixteen, eighteen, and even twenty years—elapses."

What prognosis are we, then, to give in such a case as the ensuing one?

T. C., aged nineteen, house painter. Had a fit the night before coming to me. Attributes it to the fact that he had been masturbating the day before. While walking along the street, looking at some painters, he suddenly saw before him rings revolving, which grew smaller and smaller, when he lost consciousness. Was told that he foamed at the mouth and gripped his hands together. Afterward slept about four hours. Has been a masturbator for the last five years. Never had a fit before. No signs whatever of any renal trouble, which was carefully sought for by chemical and microscopic tests, nor any ascertainable organic disease. As he had a phimosis, I circumcised him. This was over five years ago, and during this time he has had no other fit.

The waning school of enthusiasts, who fondly regard genital irritations as the fertile source of all diseases in which there is a possibility for diagnostic error, will, no doubt, explain this prolonged immunity in accordance with their darling theory; but the figures which I have just read will not permit of any such hasty conclusion. Time alone can tell whether this patient is to have another convulsion. For aught we can predict to the contrary, he may, like Gowers's patient, have another convulsion twenty years after the first.

The thought would naturally suggest itself that we might, by careful analysis of a sufficient number of cases, be able to formulate some law in this matter of intervals between the fits, and thus build up a system of averages. Gowers, indeed, believes that he has done this. But his tables attest the truth of the time-worn saying, which has been imputed to Sidney Smith—and which would have done him no discredit either—that nothing is more unreliable than facts, except figures. In these tables the cases are divided into those in which the interval does not exceed one day, those in which it is more than one day but not over one week, those in which it is over one week but not exceeding two weeks, etc., and the number of cases in each class is then ascertained, when, of course, it is a simple matter to compute the percentage of each class to the whole. If my reader will take the trouble to run over the cases in which I detailed the intervals, or, far better, if he is familiar with epileptics, he will readily appreciate that one and the same epileptic may have intervals varying so greatly in length of time as to put him, if he lives only a few years, into every one of the eight classes which Dr. Gowers has so uselessly constructed. I fail, therefore, to see how it is possible to obtain any averages in so capricious a disease as epilepsy, unless a large number of patients can be kept under observation for periods of ten years and more, without the disturbing influences of treatment of any kind. This is, of course, impracticable in the ordinary forms of the disease, such as are relatively amenable to treatment, and can only be carried out with those hopeless wretches who are huddled into our public institutions.

It is very much the custom to pay slight attention to convulsions occurring in young children, and to easily dispose of them by attributing their causation to some coincident, or precedent, or ensuing phenomena—as dentition, indigestion, etc. Indeed, one recent writer* has advanced

* "Importance of the Early Recognition of Epilepsy," E. C. Seguin, M. D., "Med. Record," Aug. 6 and 13, 1881.

* "Epilepsy," London, 1881, p. 190.

the axiom that convulsions after the third year are very probably epileptic, while, under the third, any such attacks are probably eclamptic. There seems to me to be great fallacy in these terms and these conclusions.

(To be concluded.)

NOTES ON HOSPITAL TREATMENT.*

I. The Night-Sweats of Phthisis.—II. Pyo-thorax.

By DR. B. F. WESTBROOK,

PHYSICIAN IN CHIEF TO THE DEPARTMENT OF DISEASES OF THE CHEST, ST. MARY'S GENERAL HOSPITAL, BROOKLYN, N. Y.,

AND DR. ISAAC HULL PLATT,

ASSOCIATE PHYSICIAN TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN, N. Y.

I. *The Treatment of the Night-Sweats of Phthisis.*—At St. Mary's Hospital, during the last year and a half, some attention has been paid to the treatment of the night-sweats of phthisis, with results which are thought worth reporting, although still incomplete.

The treatment employed in the earlier cases was the administration of ergotin and quinine, in doses of one grain each, in pill form, every three hours.

The first case that the hospital notes show was that of a girl, nineteen years of age, in an early stage of phthisis with profuse night-sweats. She was admitted November 30th, and remained under observation till December 14th, during which time she was subjected to the above-mentioned treatment, with the result of great diminution, but not entire cessation, of the sweats.

The second case reported is that of a woman, aged thirty-eight, with phthisis of four months' standing and very profuse sweats. On December 20th she was placed upon this treatment. The sweats gradually decreased till January 1st, when they were very slight, and continued so until about February 1st, except on three occasions, when, the pills having been omitted through the day, during the following night the sweating was again profuse. From the 1st till the 17th of February the sweats gradually increased again, despite the continued administration of the pills, and by the latter date they were nearly as bad as ever.

The hospital notes show a number of cases of a similar nature, in all of which, under the influence of the ergotin and quinine pills, there was either a great diminution or entire cessation of the night-sweats, lasting for periods varying from one to three months. In only one case did they fail to exert a marked influence over the symptom. As a rule the pills were well borne, producing little or no gastric disturbance.

Picrotoxin is the drug which has been used in the greatest number of cases.

The first case in which it was used was one in which the ergotin and quinine had controlled the sweats for a month, and which had subsequently been treated with quinine and zinc sulphate, and with small doses of Dover's powder, without apparent effect, and in which atropine was tried, with the result of reducing the sweats, but also of producing such annoying dryness of the throat as to preclude its continued use.

The picrotoxin was at first administered in the dose of $\frac{1}{16}$ of a grain hypodermically at night. The first injection was given on March 24th; the following night the sweating was less, and

on March 27th it had ceased entirely; from that time till April 3d there was no sweating, the picrotoxin being administered every night. By this time, April 3d, the sweats had recommenced slightly, and the dose was increased to $\frac{1}{8}$ of a grain at night. From this time till May 1st, twenty-seven days, there was no sweating, except on two occasions, when the picrotoxin was omitted and a slight sweat followed.

From May 1st to May 10th medication was suspended, with the result that the sweats gradually increased in severity until the latter date, when they were as bad as ever.

From the 10th to the 26th of May picrotoxin was given in doses of $\frac{1}{16}$ of a grain hypodermically every second or third night, with the result of controlling the sweat entirely for two nights following its administration; the third night, if none was given, there would be a slight sweat.

In a subsequent case the dose of picrotoxin was increased and the interval between the doses lengthened until it was found that $\frac{1}{16}$ of a grain hypodermically at night would control the sweats for ten nights following.

In other cases the picrotoxin was given, either hypodermically or by the mouth, at intervals varying from two to ten days, and in doses of from $\frac{1}{16}$ to $\frac{1}{8}$ of a grain.

The total number of cases in which the drug was administered was nine; in six the sweats were entirely checked, in two they were greatly relieved, and in one very troublesome case it seemed to have no effect whatever.

The observations go to confirm the results of Murrell's experiments, who had but one failure in twenty cases, and found the effect to last about ten days, though we have found it necessary to use larger doses, he stating that he accomplished this result with from $\frac{1}{16}$ to $\frac{1}{8}$ grain.

In one case, where picrotoxin by itself only relieved the symptom, combined with quinine it completely controlled it.

II. *The Treatment of Pyo-Thorax.*—The objects to be accomplished in the treatment of a case of empyema are:

1. The removal of the purulent effusion.
2. The prevention of the decomposition of the pus, its absorption, and consequent infection of the system.
3. The promotion of expansion of the collapsed lung to as nearly as possible its original dimensions.
4. The promotion of adhesions of the walls of the suppurating cavity, the obliteration of the cavity itself, and the prevention of the forming of sinuses and pockets with the consequent continuance of suppuration after apparent recovery.

The surgical treatment of empyema, which is the only treatment of any value as a curative measure, may be classed under two heads, namely, the close and open plans. The first consists in simply tapping the chest by means of a trocar and cannula, or with the aspirator. This meets the first indication, that of removing the pus, and, especially if the aspirator is used, there is very little danger of the entrance of air into the pleural cavity and the consequent decomposition of the pus.

To Trousseau is due the credit of first insisting upon the performance of paracentesis in all cases of empyema. His views were warmly seconded by Dr. Bowditch, of Boston, in 1852, who demonstrated the harmlessness of the operation by its use in several hundred cases of serous and purulent effusions without the loss of a single patient as the

* Read by Dr. Platt before the Medical Society of the County of Kings, May 20, 1884.

direct result of the operation. Previous to this time the greatest reluctance was felt toward any surgical interference whatever. At present the opinion of the profession seems to be nearly unanimous that operative treatment of some kind is called for in almost every case of empyema. Berger, in the "*Union médicale*" for January 1, 1884, says in every case except those complicated with either tuberculosis or amyloid degeneration, in which he regards the prognosis as too hopeless for operative interference to be of any value.

In the latter of these complications, Dr. Kretzschmar and Dr. Westbrook have demonstrated that operation is not necessarily hopeless by the case reported to the Medical Society of the County of Kings in December, 1880, where, in a girl with the most marked and positive evidence of amyloid degeneration of the liver and kidneys, Dr. Kretzschmar opened the thorax by a free incision and evacuated a large quantity of fetid pus, which proceeding was followed by gradual improvement and complete restoration to health within a year. This was over four years ago, and the patient is still well and strong.

In cases of empyema the close plan of treatment, or paracentesis, falls short of a curative measure for the reason that in a vast majority of cases the pus is quickly formed again, and the value of the operation is therefore limited to that of a palliative; in illustration of which may be instanced a case, reported by a correspondent of the "*British Medical Journal*" in 1882, of a boy seven years of age, whose thorax was aspirated five times in thirty-five days, 200 oz. of pus being removed altogether, with temporary relief following each operation. The treatment was finally abandoned, and prompt relief followed free incision. Numerous similar cases are reported, and occasionally one where a permanent cure is effected in this way, but in the vast majority of cases more radical means have finally to be resorted to.

The first and most obvious form of the open treatment was that of making a free incision in an intercostal space, evacuating the pus, and introducing a drainage-tube.

The experience of most surgeons with this form of treatment has been that sufficiently free drainage can not be obtained, both for the reason that there is not sufficient room in an intercostal space, especially after the sinking in of the chest-wall following the evacuation of the pus, and because of the rapid growth of granulations about and occluding the opening, making the removal and replacing of the drainage-tube a very difficult and painful proceeding, in many cases only to be accomplished by continual division of the fistula with tents, enlargement with the scalpel, etc. This renders the operation so unsatisfactory as to lead to a great number of modifications, some of which will be briefly considered by way of introduction to the report of three cases treated at St. Mary's Hospital during the last year, with, in the main, satisfactory results.

The method devised by Chassaignac for meeting this obstacle is to make an incision in the anterior part of the thoracic wall, and, passing a probe through the pleural cavity until it impinges upon the posterior wall, to cut down upon it and pass a long drainage-tube through the two openings, by means of which the cavity can be freely irrigated. Two interesting cases treated by this method are re-

ported by our friends, Dr. Conway and Dr. Thallon, in the "*Archives of Medicine*" for February of the present year, with the result of cures in from two to three months.

This is the favorite proceeding with British practitioners, and is, undoubtedly, the most satisfactory in its results of all methods which seek to obtain drainage through the intercostal spaces only. It is strongly advocated by Dr. De Havilland Hall in "*St. Bartholomew's Hospital Reports*" for 1876, the methods by resection of a rib, to be hereinafter mentioned, being considered by him to be unnecessarily severe.

Dr. Fraentzel, in his article in von Ziemssen's "*Cyclopædia*," advocates a method of his own. It consists in a free incision in the fourth or fifth intercostal space, and the introduction of two soft-rubber catheters, through one of which a stream of warm carbolized lotion is thrown in until the return flow from the other catheter is perfectly clear. The catheters are then removed, and a silver cannula, with a collar to prevent its slipping into the cavity, is introduced into the wound, and through this, by the aid of the two catheters, the cavity is washed out daily, as in the first instance. In the "*Lancet*" for March 5, 1881, two cases are reported of treatment by this method, resulting in recovery, in the first instance in three months, and in the second in five months.

Lister's method is a modification of Fraentzel's, and may be found detailed in the "*Lancet*" for 1879. It consists of a free opening into the chest under the spray, and with full details of Listerism, and, after a thorough washing out of the pleural cavity with an antiseptic solution, the introduction of a metallic tube with a collar to prevent its falling in, and with its inner extremity rounded and perforated with small holes. The wound is then covered with the Lister dressing, which is to be left until the discharge shows itself through the dressing, or some other indication calls for its removal.

The advantages claimed for this treatment are: 1. Free drainage. 2. The prevention of decomposition of the pus. 3. It causes less disturbance than frequent irrigation. 4. It produces no irritation of the pleura. 5. One cause of sudden death—namely, that of shock from throwing fluid into the cavity—is avoided. It seems difficult, however, with this arrangement, to see what is to prevent the holes in the drainage-tube from becoming plugged with flakes of lymph and membrane.

An ingenious method of obtaining continuous irrigation of the pleural sac, as well as of excluding the air therefrom, is reported in the "*Lancet*" for 1881, by the enterprising house surgeon who devised it.

The pleural sac being first filled with the disinfectant fluid, one end of the long rubber tube was passed into the intercostal incision and retained by some means which prevented the air from passing around it. The other end was carried down through a hole in the mattress into a bottle filled with a warm disinfectant solution, Condyl's being preferred, which was changed every hour, the fluid in the tube rising and falling with each inspiration.

In the "*Transactions of the Medical Society of the State of New York*" for 1880, p. 332, Dr. A. M. Phelps, of

Chateaugay, N. Y., suggests a method of treatment which in his hands has been followed by good results. It consists in making two openings into the chest, anteriorly and posteriorly, as in Chassaignac's method, both in the lower portion of the pleural cavity. The anterior opening is made with a trocar and cannula, and the cannula allowed to remain in the wound. The posterior opening is also made with a trocar and cannula, they being first passed through a small sheet of rubber which is attached to the chest-wall with strips of adhesive plaster, the cannula being provided with a valve opening outward, and a dependent rubber bag to catch the secretion. Irrigation is accomplished by attaching a rubber tube and funnel to the anterior cannula, and washing through until the fluid discharged through the valved tube is perfectly clear. The anterior tube is then plugged with a piece of wood, the valve preventing the entrance of air by the posterior opening.

This completes the consideration of the principal methods of obtaining drainage through the intercostal spaces. It remains for us to consider the various means for obtaining greater space for this purpose, and thus promoting this most essential requisite in the treatment of these cases—namely, good drainage.

In order to meet this indication, Dr. Peitavy, of Berlin, removed about one inch of the seventh rib after unsuccessful attempts to keep open an intercostal fistula. The patient made a good recovery, and the treatment has been followed with good results; but the operation was improved by Langenbeck, in a case reported in 1869. He adopted the plan of removing with a trophine a semicircular piece from the upper border of a rib. In this way he avoided the wounding of the intercostal vessels and nerves, and obtained a sufficiently large opening for drainage, and one with bony walls which could not easily close.

The perforation of a rib in a manner similar to this is said to have been recommended by Hippocrates, and to have been practiced by his followers, and there seems to be some reason for attributing its introduction into modern surgery to Reybard. The operation is commended by a large number of French and German surgeons, and is the one adopted in the cases which furnish the text for this paper. The case reported to this Society last year by Dr. Harrigan, where Dr. Wight removed a small piece of bone from the center of a rib in a child by means of a dental engine, was on a like principle.

An obstacle to permanent relief in some cases, especially those of long standing, is that the parts become so fixed in their new relations that the cavity does not become entirely obliterated, but pus collects in pockets and sinuses in the more dependent portions of the pleural sac, or, even if it is all removed, the cavity not being entirely obliterated, the pus will form again after apparent recovery. This state of things is illustrated by one of the cases to follow.

To obviate this difficulty, various expedients have been devised, such as strapping the chest, applying a bandage to the abdomen for the purpose of forcing up the diaphragm, daily forced inspiration, etc.; but the most thorough and radical method, which at present stands as the last resort in troublesome cases of pleural pus cavities, is the thoraco-

plastic operation of Estlander, which consists in removing a portion of one or more ribs—as many as may be necessary—for the purpose of allowing the costal wall to fall in and obliterate the cavity by adapting itself to the surface of the lung.

In Langenbeck's "Archiv" for 1881 are reported 141 cases of this operation, with 46 per cent. of cures, 33 per cent. of deaths, and 21 per cent. left with fistulous openings. Fifty-two of the operations were performed under strict antiseptic precautions, and in these, 50 per cent. of the patients recovered and 17 per cent. were left with fistulous openings, the mortality being the same as in the total number, 33 per cent. Berger and his *confrères*, in the "Union médicale" for January 1st of the present year, and the following numbers, report 27 cases treated by this method, with the following results: 10 patients were completely cured, 5 were greatly improved, 3 were unimproved, 4 died, and 5 were lost sight of after some improvement.

Norman Porritt, in the "Fothergillian Prize Essay" of 1883, recommends resection of ribs in cases which have withstood treatment for more than six months after the first incision.

An interesting point in the history of this operation is that it appears to have been suggested and used by an American surgeon so long ago as 1858. In the "British Medical Journal" for January 21, 1860, Dr. Albert G. Walter, of Pittsburgh, Pa., reported the following case:*

A river-man, thirty-two years old, of strumous diathesis, was stabbed in the left side between the eighth and ninth ribs, one inch posterior to the mid-axillary line. On the ninth day an abscess pointed below and anterior to the wound, which had closed. After a few months the opening closed, but soon the original wound opened again. He had the appearance of confirmed phthisis, hectic, etc. Daily irrigation with tincture of iodine was tried, but proved of little avail.

On December 8, 1857, a crucial incision was made and an inch of the eighth rib was removed. He improved markedly, and the hectic disappeared. Tincture-of-iodine injections were resumed, but discontinued, as they produced chills and irritative fever. He grew worse again, and, on February 11, 1858, two inches of the eighth and ninth ribs were resected. The thorax was then more freely examined than it had probably ever been on the living subject by any observer previously, and the suppurating surface destroyed with a spatula and the finger-nail. The cavity extended from the diaphragm to the middle of the scapula, and would have admitted the head of a child one year old. The opening closed in four months.

Fever soon returned, and the fistula reopened. The cavity was washed out with tincture of iodine on a sponge, and then syringed with water. Afterward a wash of caustic potash, 3j to a pint of water, was injected. This produced soreness, enlargement of the fistulous opening, and discharge of large flakes of pseudo-plastic membrane. Injections were continued till the flaky matter ceased to be discharged, and then a decoction of white-oak bark was used, with occasional syringing with compound tincture of iodine. The fistula was kept open by the daily introduction of a bougie, and finally, the discharge having ceased, the external opening was allowed to heal during the early part of January, 1859. Three months later the patient was discharged well. The left side of the chest measured an

* For a reference to this case the authors are indebted to an editorial article in the "Medical News" for March 1, 1884.

inch and a half less than the right. He was directed to wear a leather strap around the lower part of the thorax.

There seems to be no distinction between this operation and that known as Estlander's, either in the proceeding itself or in the object for which it was instituted.

The following are the cases treated in Dr. Westbrook's service at St. Mary's Hospital:

CASE I was that of a woman about twenty-eight years of age, of unsound mind, so that a very complete history could not be obtained, but there was some evidence that about a month before admission she suffered a fall during an epileptic fit, and sustained a fracture of a rib on the right side. She had a history of pleurisy extending back three weeks.

At the time of admission her right pleural cavity contained fluid as high as the level of the sixth rib, which the aspirator showed to be pus, and extremely fetid. The same foul odor was given off from her breath, strong enough to odorize the whole room. Her pulse was strong at 100, temperature 102.5° F., respiration 28. There was indistinct amphoric breathing near the lower angle of the scapula.

Her condition grew worse for a few days after admission, the temperature mounting to 103°, with occasional chills and some turns of coughing and dyspnea, the cough causing the expectoration of large quantities of very fetid purulent matter.

On May 26th Dr. Westbrook cut down upon the seventh rib, and, with a trephine, removed a semicircular piece from the upper border, leaving the internal periosteum intact. This and the costal pleura were cut through with a bistoury, and about eight ounces of fetid pus allowed to escape. The finger, introduced through the opening, detected extensive adhesions between the walls of the pleural cavity. A drainage-tube was introduced, and a pad of marine lint applied. The upper border of soft tissue was held back by sutures attached to adhesive plasters.

The patient took ether well and suffered no shock. In the evening her temperature had fallen to 99.75°. The cavity was washed out morning and night with a two-per-cent. solution of carbolic acid. On the second day after the operation, after the morning irrigation, she was attacked with a severe fit of coughing, with rapid breathing, and on the following day had developed a severe attack of bronchitis, with a temperature of 103° at night.

The bronchitis subsided in a few days, and by the seventh day after the operation there was a marked diminution in the purulent discharge, the foul odor had nearly disappeared, her temperature was normal night and morning, and she was gaining rapidly in strength.

On the seventeenth day the discharge had entirely ceased, the drainage-tube was removed, and the wound allowed to heal. Two months after the operation the wound was entirely healed and the patient well. There seems to be no doubt, from the signs and history, that this was a case of pyo-pneumothorax, the opening into the lung being probably caused by the fracture of a rib, the extensive adhesions preventing a great accumulation of pus.

CASE II.—A man, forty years of age, had an attack of pleurisy four weeks before admission. After two weeks from the commencement of the attack he began to convalesce, but grew worse again. His condition at the time of admission was very serious. He was very weak. The temperature at night was 103°, the pulse 108 and weak, the respiration 30. He had severe dyspnea, which became very urgent at night. The left pleura was full of fluid; the jugulars were distended and throbbing. About 6 oz. of healthy-looking pus were removed by aspiration.

On June 10th Dr. Dower opened the pleural cavity, trephining a rib, as in the previous case, removed about 40 oz. of healthy pus, and introduced a drainage-tube. The patient suffered very little shock. In the evening his temperature had fallen to 100.5°, the pulse was 120 and fairly strong, and he had no dyspnea.

In this case no fluid was thrown into the pleural cavity; the wound and end of the drainage-tube were merely covered with a pad of marine lint, into which powdered naphthalin had been rubbed, and this covered with Macintosh and changed daily.

The patient grew steadily better, the discharge diminishing in quantity, at all times being perfectly free from odor, and, in six weeks after the operation, had entirely ceased, the drainage-tube was removed, and in another month he was discharged cured.

These two cases are still under observation, twelve months having elapsed since the first operation and eleven since the second, and there has been no recurrence of trouble in either case. In each instance the lung expanded well, if not fully, and, beyond the evidence of thickened pleuræ, the physical signs are normal.

CASE III is that of a woman forty-two years of age. She did not come under observation until six months after the attack of pleurisy which resulted in the empyema. She was at the time of admission weak and anemic, with extreme dyspnea and very severe cough, with copious muco-purulent expectoration. The left pleural sac was evidently full of fluid, though two attempts to remove a portion with a hypodermic syringe were unsuccessful, owing probably to the great thickening of the pleura or viscosity of the pus. On the second day after admission, however, about three pints of thick but healthy pus were removed by the aspirator, which afforded some temporary relief to the dyspnea.

On October 17th Dr. Dower trephined the seventh rib and removed about two quarts of healthy pus. A drainage-tube was introduced, and the wound was covered with naphthalinated oakum and Macintosh.

The patient experienced great relief after the operation, and rapidly grew stronger, the cough and dyspnea at once disappearing. The cavity was not washed out, the dressing of naphthalinated oakum being changed at first twice a day and afterward daily.

Seven weeks after the operation the discharge had ceased and the tube was removed. At the end of the tenth week the wound had wholly healed, the patient was feeling well, and the lung had apparently well filled out, though the signs were somewhat masked by the thickening of the pleural membrane. She was discharged.

One month later she presented herself at the hospital with the history that she felt well for three weeks after going out, but for the last week had had slight chills and feverish feelings, and on the previous day the wound had opened and discharged about two quarts of fetid pus.

The pleural cavity was washed out with carbolic lotion, the wound being with some difficulty kept open. After a few weeks of treatment the discharge ceased, the wound healed, and the patient was again allowed to go home. Soon after the wound again opened and discharged, and the patient is at present at the hospital awaiting further operative procedure.

In regard to the first two cases, it will be observed that they were both of a very serious nature. The first involved an opening into the lung, with the pus in an advanced stage of decomposition. The second patient was so weak and exhausted that some doubts were entertained whether he

would live through the night previous to the operation, and, in fact, a quantity of the pus was removed during the night by means of the aspirator, to give him breathing room. Yet the first patient had entirely recovered in two months, and the second in two months and a half.

The incisions in all three cases were made in the mid-axillary line at the seventh rib. This proved to be sufficiently dependent in the recumbent posture to admit of good drainage, and saved the patients the annoyance of lying upon the wounds, as they would have had to do if the openings were situated farther back.

In the two latter cases, as there was no indication of fœtor in the pus, no fluid was thrown into the cavities, and the patients were saved the pain and annoyance of the daily irrigation, as well as the injurious effects on the pleural membrane, and the shock, which in a few cases has proved fatal, caused by the introduction of fluid into the cavity. It will be noticed that, in the first case where it was used, it apparently caused an attack of bronchitis.

The Macintosh, which was used in the second and third cases to cover the oakum pad, was intended not so much as an antiseptic precaution as to prevent the air from rushing into the pleural cavity through and around the tube with each inspiration, thus interfering with the due expansion of the lung. It rendered the breathing of the patients much easier.

It would seem very difficult, or well-nigh impossible, to exclude the air entirely from the wound and cavity, and in our cases it was not attempted; but, by its being filtered through the pad of naphthalinated oakum, the use of which Dr. Fowler introduced into the hospital, it was probably rendered very nearly or quite aseptic. It may be interesting to note here, in favor of the power alleged for naphthalin as a prophylactic against erysipelas, that during the treatment of the third case another patient in the same ward developed the latter disease, and the two patients remained in the ward together for fourteen or sixteen hours before the fact was discovered and corrected. No unfavorable result was observed in the patient with the open wound.

The third case was of six months' standing before coming under observation, and was evidently one of those where the parts are so firmly fixed in their new relation that it is impossible for the lung, bound down as it is by bands of adhesion, to expand and fill the cavity, and the only resource is Estlander's operation, previously described, which it is now proposed to do.

among its members many whose reputation is world-wide, and whose contributions are always sought for and read with interest. The volumes before us contain original papers, histories of cases, and descriptions of specimens illustrating rare and interesting forms of disease. The society was instituted in 1821, and it published three volumes of "Transactions," in 1824, 1826, and 1829. The papers submitted to the society during the next fifty-seven sessions (years) were never published in a collected form. We congratulate the society on the revival of its publications on the plan of issuing an annual volume, and hope the effort will meet with all the success to which it is entitled by the merit of the contributions.

BOOKS AND PAMPHLETS RECEIVED.

Wharton and Stillé's Medical Jurisprudence. Fourth edition. Edited by Robert Amory, A. B., M. D., Fellow of the Massachusetts Medical Society, etc., and Edward S. Wood, A. M., M. D., Professor of Chemistry, Harvard Medical School, etc. Vol. II and Vol. III. Philadelphia: Kay & Brother, 1884. Pp. xv-669; xv-880.

Medical German. A Manual designed to Aid Physicians in their Intercourse with German Patients, and in Reading Medical Works and Publications in the German Language. By Solomon Deutsch, A. M., Ph. D., etc. New York: J. H. Vail & Co., 1884. Pp. ix-336.

The New Science of Medicine. By Norman Bridge, M. D., Professor of Hygiene, and Adjunct Professor of the Principles and Practice of Medicine, in Rush Medical College. Being the Doctorate Address delivered at the Forty-first Annual Commencement Exercises of Rush Medical College, Chicago, February 19, 1884.

Proceedings of an Informal Conference of the United States Commissioners of the World's Industrial and Cotton Centennial Exposition and the Representatives of the Several Departments of the National Government, held at Washington, D. C., May 7-9, 1884.

A Re-statement of the Cell Theory, with Applications to the Morphology, Classification, and Physiology of Protists, Plants, and Animals. Together with an Hypothesis of Cell-Structure and an Hypothesis of Contractility. With Plate. By Patrick Geddes. [Reprint from the "Proceedings of the Royal Society of Edinburgh."]

Seize années de pratique médicale à Contrexéville. (Étude clinique.) Par le Dr. Debout D'Estrées, Médecin inspecteur des eaux de Contrexéville, etc. Paris: Félix Alcan, 1884. Pp. 44.

State Board of Health of New York. Report on the Epidemic of Enteric Fever in Port Jervis. By Dr. F. C. Curtis. [Extract from the Fourth Annual Report.]

Herschell's Urethral Charts. London: Henry Kimpton.

Some Remarks on Naso-Aural Catarrh and its Rational Treatment. By John N. Mackenzie, M. D., etc. [Reprint from the "Trans. of the Medical and Chirurgical Faculty of Maryland."]

Irritation of the Sexual Apparatus as an Ætiological Factor in the Production of Nasal Disease. By John N. Mackenzie, M. D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Deflection of the Nasal Septum, and its Treatment. By John N. Mackenzie, M. D., etc. [Reprint from the "Trans. of the Medical Society of Virginia."]

New York Hospital. Annual Report of the Conference Committee in charge of the Training School for Nurses, for the Year 1883; together with an Address to the Graduating Class, by W. H. Draper, M. D., Attending Physician to the Hospital.

Twelfth Annual Report of the New York Infant Asylum.

Book Notices.

Transactions of the Medico-Chirurgical Society of Edinburgh. Volumes I and II, 1881-1883 (new series). Edinburgh: Oliver & Boyd, Publishers to the Society.

THESE volumes inaugurate a new era in the society, and, under the efficient editor-ship of Dr. William Craig, the publication of the "Transactions" in this permanent form will prove a valuable addition to medical literature. The society numbers

The Sixtieth Annual Report of the Officers of the Retreat for the Insane, at Hartford, Conn., April, 1884.

Ueber Hämaturie bei Nierenkrebs im Kindesalter. Von Dr. A. Seibert, Kinderarzt am Deutschen Dispensary in New York. [Reprint from the "Jahrbuch für Kinderheilkunde."]

Correspondence.

LETTER FROM LONDON.

International Courtesy among Medical Men.—Post-graduate Work in London.—Mr. Thornton's Laparotomies.—General Surgery in London.—The General Plan of English Medical Education.—The English and the American Systems compared.

LONDON, June 14, 1884.

THE writer would deprecate the modern habit of English (and American) visitors, whether literary, scientific, or professional, of returning home and abusing their entertainers. The spirit of kindly criticism is one thing, but, until educated men and representative journals cease their polite *innuendoes*, there will remain, even in our own profession, that slight shade of mutual jealousy which crops out now and then in a most unpleasant manner. Suppose that an Englishman does snub you at the first interview; you discover in time that it is only "a way that he has," and he will be a trifle less frigid at each subsequent meeting. So soon as he finds that you are "all right" (and that you have not graduated from a bogus medical college) he will unbend considerably.

For the student a fortnight in London is far more enjoyable than a term of several months, but, on the other hand, he will be apt in the former case to carry away an erroneous idea as to the actual advantages to be derived from a lengthy stay in that medical center. It is unfortunate that Americans in general have not a clearer view of the English methods of instruction, and that they are so apt to compare them with the Vienna system.

For general work, the writer has no hesitation in advising the post-graduate student *not* to spend much of his time in England. The distances between the hospitals are so considerable, and the hours of work so arranged, that he will find he has accomplished very little in a day compared to the economical plan on which he has worked in Germany. Each hospital being an independent community in itself, and designed solely to meet the wants of its own students (who are often hardly conscious of the existence of any other), it is evident that an irregular worker must act at a great disadvantage.

Now, as the stranger is expected to matriculate at any hospital which he may attend regularly, and to be subject to the same regulations as the other students, it is unnecessary to explain how much he will be limited in his advantages. Most men would not care to attend a clinic simply by courtesy, but he must either do that or follow it in the capacity of an undergraduate.

Most of the practical instruction in the London schools is given at the out-door departments by the assistant surgeons, to whose zeal and ability we in America do not give half enough credit. Fortunately for English medical students (especially at examination time), some of the brightest minds of the profession are condemned to this limited sphere—limited, but *not* in usefulness.

As to courses for advanced students, such as are now provided in New York—we may dismiss these in a few words. Those

which exist are open to objection on the score of expense in money and in time, and are by no means so satisfactory as they might be.

For the special student London offers some advantages, yet none which can not be gained with less sacrifice elsewhere. In spite of the large amount of material furnished by such an institution as Moorfields or the Royal Ophthalmic Hospital, the advanced student can not use it with the same freedom as at home, and soon finds that he can employ his time to better advantage.

In gynecology there are indeed courses at the Soho Square Hospital, but their value to an American is doubtful. Perhaps the most valuable hints in that department are to be picked up at the Samaritan Hospital, where visitors are always welcome.

To one who has been accustomed to the fuss and confusion of German (and American?) operators, there is something very suggestive in the quiet and unostentatious manner in which Mr. Thornton and his *single* assistant perform their work. The expression "poetry of ovariectomy" might be properly applied to his beautiful operations. As to the results, it is unnecessary to speak. Those of the past year have been remarkable. Those who object to the troublesome details of a strictly antiseptic operation would be surprised to see what a simple affair it is in his hands.

Not to dwell upon a subject with which most of your readers must be familiar, it is enough to conclude with the statement that the practical lesson to be derived from a study of Mr. Thornton's work is, that no amount of dash and *élan* in a laparotomy can ever equal a careful, deliberate procedure, and the employment of every precaution which can insure the recovery of the patient.

As to general surgery, it may be said that a man can spend a week quite profitably in studying the peculiarities of different operators. But here, too, a certain amount of time must be lost, as many of the hospitals have their operations at the same hour. The American visitor will see not a few things to admire in the English methods, chief among which is the evident purpose of the surgeon to make his operation instructive to the spectators. We have special clinical lectures in surgery, yet our medical students frequently witness operations of the nature and purpose of which they have but a dim idea. This is not the case in the English hospitals, where every surgeon is a clinical lecturer, and every operation is thoroughly explained, as well as the pathological condition which makes it necessary. The practical benefit of this kind of instruction is unquestionable. As regards the operations themselves, the writer can state from his own experience that, even at one of the smaller hospitals, which he attended regularly, the number of capital ones was rather above our own average. Thus, there were three nephrectomies in ten days, all of which did well. Laparotomies are frequently performed in the general hospitals, and the patients generally make a good recovery. It is rather interesting to notice that the antiseptic (not Lister's) method in London is quite similar to that now in vogue in Vienna—viz.: irrigation with a carbolic-acid solution during the operation, and the free use of iodoform powder and salicylized jute in the dressings. The spray is pretty generally under the ban in ordinary surgery, unless, perhaps, in resections.

Reference has already been made to the character of the instruction at the English hospitals, and a more detailed account may be of interest. It is well known that the required course of study extends over four years, that a thorough preliminary examination is always required (in the absence of a degree), and that the course of study in the various schools is uniform, being designed to fit the students for the examinations which they must pass in common. The first two years are spent mainly in

the study of the elementary branches, especially anatomy, which latter, however, is never dropped as with us, but forms the framework on which is erected the entire structure. By careful, conscientious work in the dissecting-room (where a demonstrator is constantly present, and gives his *best* and not the fag-end of his time to the work), by dint of endless repetition in lectures, recitations, and demonstrations, the English student comes to have his anatomy literally at his finger-ends. Attached to each school is a carefully arranged museum of anatomical and pathological specimens, which is always open to him, and where he is encouraged to spend several hours each day. How strange that this valuable help is not recognized in America! And as with anatomy, so with every other branch of medicine, there is a constant purpose to make the instruction as thorough and practical as possible. Each school vies with the others in advancing the standard of education, and the students themselves seem to catch the healthful spirit of rivalry. To fail in their examinations is not only to disgrace their school, but to disappoint the instructors, who feel such a personal interest in their success. It is impossible for one who has not actually been connected with an English hospital to understand the peculiarities of the system. To the casual observer its only object seems to be a four-years cram, which shall enable a man to pass safely through the fiery ordeal of the College of Surgeons. The very purpose of that examination is to defeat such an object, and probably it succeeds as well as any examination could. The practical working is to be judged of by the results. It is enough to say that English medical students are, as a rule, educated gentlemen, and that is too often not the case with us—more's the pity.

Excuse the digression—we were speaking of the methods of teaching in the schools. The more advanced students have their daily hospital visits and bed-side instruction as with us (but more thorough and *personal* in its nature). Each case furnishes a subject for discussion before the class, and before it is disposed of the student who has it in charge is pretty thoroughly catechised. At the next visit the same subject is reviewed, and so on at each succeeding one, until it has become perfectly familiar to him. It is surprising how much time the visiting surgeons (men whose large metropolitan practice and years of honorable service might excuse them the labor if they so desired) devote to the patient, kindly instruction of the student. Compared with the hurried, infrequent rounds of our own busy attendants, it is something new and strange to watch a gray-haired surgeon, whose name is known throughout the world, surrounded by his little group of eager listeners, while he repeats and re-repeats to them the results of his own years of experience, teaching them that no case is too insignificant for their careful observation. It may be that this method of instruction is calculated to make the pupil one-sided in his views, but it has at least the merit of making his knowledge exact. This course may be impossible in the hurry and rush which characterize our educational as well as business plans, but it is something to be aimed at, if not attained. The dresser is a peculiarity of English hospitals as compared with our own. Each student must have served in that capacity for six months before being allowed to apply for his final examination. The result is that, instead of the practical training enjoyed by only a fortunate few among our students, every English medical man must have had such advantages before he is permitted to practice. Your readers may remember that there appeared in an American journal a few years ago a letter from an English physician who stated that an American student could "graduate without ever having seen a case." This letter provoked a vigorous reply from the late Dr. Gross, in which, though in his usual earnest style the venerated writer asserted his belief in the thoroughness of his

own pupils' training, it was still painfully evident that he had not succeeded in refuting the original charge. This is still more apparent when we remember that the British licensing bodies require a certificate of attendance on *twenty* cases of midwifery. Only *two* are required at Harvard; and how many men graduate every year in New York without having seen a single case! Yet we have just as large a *clientèle* as the London schools, compared with the number of students. That our students can go into practice without the least experience in handling cases is too well known to need contradiction. Not but that they have fine opportunities; the point is, they are not *obliged* to improve them.

And this leads to another thought. How do our institutions compare with those in England, and what is the essential difference in the training of their respective students? In the writer's opinion, the difference is that between *diffuse* and *exact* knowledge. The English student is constantly called upon to give a reason for the hope that is within him; the everlasting "Why?" stares him in the face at every turn; he is obliged to pick his way through details which the American takes at a flying leap. Doubtless the native ingenuity of the latter gets him out of many a scrape where his English friend would flounder helplessly through want of a proper precedent, yet, after all, since the object of a professional education, as of any other, is simply to teach a man to think for himself, it is just as well that he should do his thinking in a systematic way.

It is this lack of *exact* knowledge which makes an English examination so difficult for an American, even after his eighteen months of hospital experience. He has learned all of the minutie of hospital work, has had far more responsibility than any English house-surgeon can boast of, and yet before the merciless (though simple) questions of a strange examiner, who does not regard him as a prodigy at all, he feels that he has never learned to ask himself why he has done thus and so. Now that it is becoming much the fashion for our countrymen to apply for foreign degrees, it is well for them to bear in mind that neither success at home nor confidence in their own ability can take the place of the thorough, precise knowledge which must be acquired before they can expect to compete with their English rivals. And this can only be properly acquired by actual residence in London and daily routine work in the hospitals and museums. This is a prospect by no means attractive, and, from a financial point of view, it does not pay; yet the writer feels that the training for an English examination (which is really identical in its nature with that for a university boat-race) is not without its benefits. As the latter produces men of stalwart frame, so the former has brought forth a body of educated medical men of whom any country may feel proud. Doubtless many men "over-train" in both contests, but, through the survival of the fittest, those who are good are very good indeed.

To conclude without a word of apology would be to expose myself to the charge of disloyalty toward our own institutions. Far be it from any American to be ashamed of his Alma Mater. She has nourished noble sons, and will ever do so. Why should we shrink from comparisons? If they expose our weaknesses, they at least show our strong points. When we think that it has not been in the foremost medical colleges that our most honored representatives began their careers, we are tempted sometimes to think that, after all, preliminary training is a small affair beside native force of intellect. But, so long as the average man can never be a Sims or a Gross, it is desirable that he should be an educated gentleman, and this is the noble end toward which our professional schools are certainly tending—what more honorable cause of rivalry between us and the mother country?

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 28, 1884.

CHRONIC ALCOHOL POISONING.

First Article.

M. DUJARDIN-BEAUMETZ has just published an account of some extensive experiments which he has recently performed in the *abattoirs* of Grenelle, Paris, on chronic alcoholic poisoning. The subjects of his experiments were hogs, about twenty of these animals being subjected, and for a period of nearly three years, to daily dosing with small quantities of alcohol, the spirit being mixed with their food. As the results are of the greatest scientific interest, we will give a summary of M. Dujardin-Beaumetz's reports.

In enumerating the general effects of alcoholic poisoning upon the animals on which he experimented, he takes up in their order the different physiological systems, and describes the symptoms observed during life, and the post-mortem lesions. Whenever the daily dose of alcohol did not exceed one gramme for each kilogramme of the animal's weight, the digestive system bore it with very little inconvenience. An idea may be formed of the quantity here indicated by supposing the case of a man weighing one hundred and twenty pounds; such a man, if the human constitution is affected by alcoholic stimulants like the porcine, might ingest with reasonable impunity about two ounces of alcohol a day, say, in the form of a gill of good whisky. When the dose mentioned was exceeded, the experimenters constantly observed, in the course of a few days, the following symptoms: Loss of appetite, more or less marked; vomiting of bile and gairy mucus; and diarrhoea, more or less abundant, the stools sometimes containing a mixture of mucous and sanguinolent matters. These phenomena on the part of the alimentary canal sometimes took on so acute a character that it was found necessary to suspend the administration of the alcohol, and put the animal on a milk diet. In several post-mortem examinations which were made by M. Dujardin-Beaumetz and his assistant, they discovered an abnormal redness of the mucous membrane of the stomach. These stomachs were carefully compared with those of animals that had not been dosed with alcohol. The injection was limited to the mucous membrane, and there was no thickening of the walls of the stomach. In a few cases the mucous membrane of the intestine was congested; in certain points it presented a violaceous, ecchymotic tint, comparable to that which has been observed in rapid poisoning with alcohol.

As regards the hepatic system, several of the hogs presented, during life, a yellowish discoloration of the conjunctiva, and the urine was tinged with bile. Post mortem, the liver was found congested, and, in certain cases, its parenchyma was friable, but there was neither interstitial hepatitis nor ascites.

This is remarkable, considering that these swine had been subjected for more than two years to the alcoholic regimen. It is, however, a noteworthy fact that the connective-tissue framework of the hog's liver is more dense and resisting than that of man.

"Our animals," says M. Dujardin-Beaumetz, speaking of the urinary system, "never had hæmaturia; their urine, the density of which was always normal, and in which we never found albumin, was colored only by bile. The post-mortem examinations which were made revealed fatty degeneration of the kidney. M. Cornil, in his histological examinations, was at first struck with this steatosis. But this fatty change is almost constant in hogs. Therefore we think that it can not be attributed to the alcoholic regimen imposed on our subjects. In one of them there was pyelitis. Was this pyelitis produced by alcohol? We can not affirm this, although it seems probable."

Speaking of the respiratory system, the author continues: "Almost all our hogs had a cough, and some of them never ceased to cough. At the post-mortem examinations of the latter we noted marked pulmonary congestion, which, in a few instances, had given rise to hæmorrhages. This alteration seems to us to have had a double origin. It may be attributed in part to elimination of alcohol by the respiratory passages, and in part to atmospheric influences (the weather a part of the time being very severe). It is worth noting also that during the period of alcoholic hebétude which followed the ingestion of the spirit, and which lasted several hours, the animals remained immovable in their pens, and readily became chilled. This condition undoubtedly favored the development of broncho-pulmonary catarrh."

No circulatory disturbances were noted in these animals, although the least exertion induced a state of breathlessness. The heart, in every instance, appeared fatty, but hogs, according to M. Dujardin-Beaumetz, are exceedingly liable to fatty heart under any kind of alimentation. The valves were healthy. In several cases, however, atheromatous patches were noticed at the root of the aorta; these were limited to the first portion of that vessel. The experimenters were disposed to attribute these atheromatous patches to alcoholic poisoning, especially as they failed to find similar aortic mischief in other hogs that had arrived at the same age and had not been subjected to the same systematic dosing.

ENGLISH CRITICISM OF AMERICAN SANITATION.

PROPER criticism is one of the most valuable services that man can render to his fellow-man. There is some difference of opinion, however, as to what constitutes propriety in criticism, and there seem to be persons who think it necessary, not only to overstate the case, but also to humiliate those against whom the case is to be made out. A recent correspondent of the "Lancet" appears to be of this way of thinking, for he is at some pains to paint us blacker than we supposed ourselves to be, and that, too, in regard to two matters concerning which we have generally thought ourselves capable of standing a com-

parison with other communities—the efficiency of our medical practice and our common honesty as a people. “I say it adversely,” he observes, “but emphatically, after several years of close observation in the United States, that the rate of mortality generally, as well as in the city [New York], would be very materially lowered if the standard of medical education were adequately raised.” It is indeed wholesome for us to be made the subjects of such a statement as this, especially since it is evident that the writer aims not so much to deliver himself of the truism which it constitutes as a general proposition as to call attention to the exceptional ignorance of the medical practitioners of this country.

The other count of the indictment has reference to the United States census in so far as it relates to the city of New York, the resident population of which town, the writer of the communication is “well assured,” is estimated too high rather than too low if set down at one million. In support of this statement, he alleges the frequent double registration of individuals, and adduces the instance of himself and his family, who were “taken twice at the last census.” How humiliating this is! It is indignity enough that a Briton should be included once in the list of inhabitants of the United States, but twice—we can not express our chagrin that so base a deed should have been perpetrated. The point of this arraignment of the census is, of course, to make out that the death-rate of New York is even higher than the official figures indicate, that our real rate of mortality is 34·01, instead of the estimated rate of 25·81. He rules out the plea that there are many deaths in the public institutions of persons who arrive from foreign parts with a very poor prospect of life by the “child-like and bland” suggestion that, since they figure in the census, their deaths should also justly be reckoned in the bills of mortality.

Having made out this high death-rate, he imputes it to “bad drainage, bad water, bad air, bad food, imperfect sanitary measures, the herding together of many families in tenement-houses and rookeries as London can not equal for filth and rottenness of every kind, and last, but not least, to the inefficiency of medical help.” We beg leave to suggest that this list of ætiological factors is incomplete; indeed, the part of Hamlet is left out, namely, the universal enervation of the American people, as was illustrated about five years ago by another correspondent of the “Lancet,” who said in substance that no American ever ran when he could possibly walk, walked when he could possibly ride, stood when he could possibly sit, or sat when he could possibly lie down. It seems to us singular that, “after several years of close observation,” our friend has not felt impelled to include this physical degeneration in the indictment; but perhaps he thinks his criticism is best taken in divided doses.

The pangs of conscience aroused by the “Lancet’s” correspondent are somewhat tempered by what an English physician resident in New York has to say in the “British Medical Journal” for May 24th. This gentleman bewails the mismanagement of the English Transatlantic passenger steamship service as

regards its sanitary element, and pictures the horrors that may some time come upon us, in the shape of an imported pestilence, as the result of that mismanagement. While castigating his countrymen, he does not omit, however, to bestow some of his attention upon our methods of quarantine. But even he thinks, apparently, that his criticism needs to be administered heroically, for, after depicting the laxity of the Health Officer of the port of New York, he says: “Thus is quarantine administered in the United States.” Almost any palliation may cheerfully be allowed those who, being European by birth and education, find themselves condemned to a residence in the United States for a certain length of time; and how grateful we should feel when they mercifully give that palliation the form of criticism meant for our own profit and tending to our regeneration!

NEWS ITEMS, ETC.

INFECTIOUS DISEASES IN NEW YORK.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 24, 1884:

DISEASES.	Week ending June 17.		Week ending June 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	4	0	6	2
Typhoid Fever	8	6	12	5
Scarlet Fever	65	12	54	16
Cerebro-spinal meningitis	4	4	6	5
Measles	92	14	181	33
Diphtheria	37	23	38	16

CHOLERA IN EUROPE.—A number of deaths from cholera have taken place at Toulon, on the Mediterranean coast of France, and a transport ship from China, suspected of having brought the disease to that port, has been ordered to sea. It is alleged that the first death from cholera at Toulon took place so long ago as the 4th inst., but that it was kept secret. A Cabinet council has been held at Madrid to take measures to prevent the entrance of the disease into Spain. The condition of Toulon is said to be one of extreme filthiness.

SMALL-POX FROM CHINA.—According to a newspaper dispatch, a Chinese woman landing from one of the Pacific Mail steamships last week succeeded in eluding the vigilance of the quarantine officers, although she had with her a small boy with the eruption of small-pox so pronounced on his face as to attract the attention of the customs officers. It is said that five hundred Chinese had already landed from the vessel when the discovery was made, but that the sanitary authorities at once proceeded to “corral” the six hundred that remained on board and to quarantine the ship.

M. PASTEUR’S EXPERIMENTS IN THE PREVENTIVE INOCULATION OF HYDROPHOBIA, according to “Lyon médical,” are to be prosecuted, at his request, under the observation of the following commission: M. Bédard, dean of the Paris faculty of medicine; M. Paul Bert, professor of physiology; M. Bouley, professor of comparative pathology at the Museum of Natural History; M. Villemin, of the military school of applied medicine and pharmacy; M. Vulpian, professor of comparative and experimental pathology in the Paris faculty; and M. Tisserand, director to the Minister of Agriculture. Perhaps a more satisfactory test will result from the fact, recorded by the “British Medical Journal,” that a railway employee, having been bitten by a dog that was undoubtedly rabid, has placed himself under M. Pasteur’s care.

THE GROSS PROFESSORSHIP OF PATHOLOGICAL ANATOMY.—At a recent meeting of the Philadelphia profession, as we learn from the "Medical News," resolutions were adopted calling upon members of the profession and others to contribute to the endowment fund for a memorial professorship to be called the S. D. Gross professorship of pathological anatomy. It is announced that contributions may be sent to Dr. R. J. Dunglison, lock-box 1,274, Philadelphia.

A CREMATORY FOR NEW YORK, it is reported, is likely to be built before long in East Williamsburgh, a company having bought land there for the purpose.

A BILL FOR A NEW UP-TOWN HOSPITAL is among those that have failed to receive the signature of Governor Cleveland, the reason given by the Governor being that the proposed hospital does not meet the views of the Commissioners of Public Charities and Correction.

THE UNITED STATES MEDICAL COLLEGE OF NEW YORK AND THE BUFFALO COLLEGE OF PHYSICIANS AND SURGEONS seem to have reached a crisis. The Court of Appeals has affirmed the judgment rendered by the Supreme Court about a year ago in the case of the first-mentioned concern, setting its charter aside, and the appeal which has now been passed upon was understood as a test case by the attorneys who acted in behalf of the Buffalo College.

THE NATIONAL BOARD OF HEALTH.—A dispatch to the "Evening Post" states that it has been discovered that the Sunday Civil Bill abolishes the board.

INCREASED ACCOMMODATIONS FOR THE INSANE OF NEW YORK are contemplated by the Commissioners of Public Charities and Correction, and the purchase of a tract of land on the line of the Long Island Railroad for the purpose is under consideration. The land in question is situated between Deer Park and Farmingdale.

VIVISECTION IN GREAT BRITAIN.—According to the London "Times," an analysis of a return of the experiments performed during the year 1883 under the Vivisection Act shows that, while forty-four persons in England and Scotland held licenses under the act, only thirty-two of them performed experiments, and that in Ireland, where eight licenses were held, only four persons performed experiments. The experiments of all kinds numbered 525 in England and Scotland, and 34 in Ireland. Two hundred were carried out under the restrictions of the license alone, 55 under special certificates dispensing with the use of anesthetics, and 122 under certificates dispensing with the obligation to kill the animals while yet anesthetized.

ARMY INTELLIGENCE.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 15, 1884, to June 21, 1884:*

MAGRUDER, D. L., Lieutenant-Colonel and Surgeon. Granted leave of absence for one month. Par. 7, S. O. 143, A. G. O., June 20, 1884.

HAPPESETT, J. C. G., Major and Surgeon. Granted leave of absence for four months. Par. 5, S. O. 141, A. G. O., June 18, 1884.

Changes in the Department of Texas.

PORTER, J. Y., Captain and Assistant Surgeon. Ordered from Fort Ringgold, Texas, to Fort Brown, Texas, as post surgeon.

MADDOX, T. J. C., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Texas, to Fort Ringgold, Texas, as post surgeon.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered from Fort Concho, Texas, to Fort Clark, Texas, as post surgeon. S. O. 73, Headquarters Department of Texas, June 9, 1884.

NAVAL INTELLIGENCE.—*Official List of Changes in the Medical Corps of the Navy during the Week ending June 21, 1884:*

KNIGHT, J. S., Surgeon. Ordered before Retiring Board.

HERNDON, C. G., Passed Assistant Surgeon. Detached from Albatross, and ordered to attend officers of Navy and Marine Corps in Washington.

FLINT, J. M., Surgeon. Detached from Smithsonian Institution, and ordered to Fish Commission steamer Albatross.

LEACH, P., A-sistant Surgeon. Ordered for examination preliminary to promotion.

GARDENER, J. E., Passed Assistant Surgeon. Detached from U. S. S. Lancaster, and ordered to U. S. S. Powhatan.

BOYD, J. C., Passed Assistant Surgeon. Detached from U. S. S. Lancaster, and ordered to U. S. S. Powhatan.

SOCIETY MEETINGS FOR THE COMING WEEK.—*Tuesday, July 1st:* Buffalo Medical and Surgical Association; Croton Medical and Surgical Union (Katonah, N. Y.); Elmira, N. Y., Academy of Medicine; Medical Society of the County of Broome, N. Y.; Medical Societies of the Counties of Hudson and Union, N. J.

Wednesday, July 2d: Medical Society of the County of Richmond, N. Y. (annual).

Thursday, July 5d: Society of Physicians of the Village of Canandaigua, N. Y.

Letters to the Editor.

THE PHILADELPHIA DEBATE ON THE TUBERCLE BACILLUS.

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, June 20, 1884.

To the Editor of the New York Medical Journal:

SIR: May I ask you to insert in your columns these lines, in order to allow me to take exception to certain statements which my friend Dr. Shakespeare, of this city, made on the occasion of a discussion on tuberculosis before our County Medical Society some months ago, and which were printed in the last (June 14th) issue of your valuable journal?

In relation to the bulk of Dr. Shakespeare's statements, it is not necessary to say anything, as they are not pertinent to the subject at issue, and merely of local and biographical interest; moreover, they represent only personal views, more or less gallant in expression, and really concern no one, and hurt no one.

There is, however, in the report of Dr. Shakespeare's remarks (page 675 of your journal), a statement of importance, and of such character that I can not leave it unchallenged. It may be due to some mistake of the stenographer, perhaps. I am quoted by Dr. Shakespeare as having made the declaration that "Koch had so far modified his views that he now admitted that neither the form, size, and aspect of the tubercle bacillus, nor its want of individual motion, nor its peculiar behavior toward staining fluids, distinguished it from any other bacilli."

This would be, evidently, a misrepresentation of Koch's view upon this point, and I am not guilty of it. What I ever said or published on this particular point was this: "Dr. Koch kindly demonstrated to me a number of specimens of bacilli, and, in particular, the appearance of these bacteria exhibiting under low amplification the peculiar S-like figure in the growths in masses.

Koch seems now to lay more stress upon this low-power appearance and upon the pathogenetic properties of the *Bacillus tuberculosis* as a distinguishing feature from other bacilli than upon the color test. During the conversation, he admitted that some other bacilli may also yield the same micro-chemical reaction as the tubercle bacilli, but insisted that the latter bacilli can not be stained brown. The failure of the tubercle bacilli to take the brown stain, he said, was the reason that they can not be well photographed (blue- and red-stained objects not being suitable for photographing)." (See *Bacillus* chapter in my second communication on tuberculosis.)

It is also cruel of my friend Shakespeare to say, as he does, in another part of the same remarks, *that I have accused Koch of unscientific work!* Those who have honored me, on various occasions, with their attendance in scientific meetings, in the lecture-room, or daily in the laboratory, and those who have read my papers, can testify that I have ever done justice to the work of the discoverer of the tubercle bacillus, even if, so far, I have had no reason to agree to all his conclusions.

Yours respectfully, H. F. FORMAD.

SOME REMARKABLE OPIUM-EATERS.

JEFFERSON, WIS., June 3. 1884.

To the Editor of the New York Medical Journal:

SIR: Allow me to correct Dr. Livingston S. Hinkley's statement that the woman *habituée* he refers to, who took eighty-five grains of morphine daily, is the champion opium-eater. I have met with worse cases among my patients, and those I mention here *I myself saw take the amounts stated*. One, a farmer, of southern Illinois, took in my presence the entire contents of a drachm vial of morphine, which dose he repeated once or more daily. Another, a railway employee, took from two and a half to three such vials, averaging one hundred and fifty grains of morphine daily. I am now treating a physician who took forty-five grains *hypodermically pro die* when he came to me—equal to about one hundred grains *per os*.

Let me add my experience in such cases. The railway employee above mentioned was experimented upon to ascertain whether the drachm doses were completely absorbed, etc. I found that he could not tell the difference in doses of morphine, in solution, when administered by me, after passing ten or twelve grains in amount; indeed, twelve grains had the same effect on him that four times the amount had, showing that, beyond ten or twelve grains, the morphine taken has no effect, and probably passes off with the stools. This, of course, does not affect my *hypodermically* addicted colleague, who professes to have used from seventy to eighty grains daily subcutaneously at times. After the system has accustomed itself to a certain amount, which I maintain to be about ten grains *pro dosi*, almost any additional quantity may be given with impunity.

Respectfully, etc.,

DR. J. C. HOFFMAN.

THE COLLEGE OF MIDWIFERY.

NEW YORK, June 23, 1884.

To the Editor of the New York Medical Journal:

SIR: Please publish the following, which is a copy of a letter received by me from Dr. James O'Reilly.

Yours truly,
JOHN ALSDORF.

303 WEST FORTY-SECOND STREET, June 19, 1884.

JOHN ALSDORF, M. D.

DEAR DOCTOR: A circular letter, entitled "A Chapter from the History of the College of Midwifery," was mailed March 19th to the mem-

bers of the County Medical Society. In that letter charges were made by me derogatory to your character which have been since explained, and I now take pleasure in withdrawing the statements made and express my confidence in your personal integrity and honor.

Very truly yours,

[Signed] JAMES O'REILLY, M. D.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Tenth Annual Meeting, held in New York, Wednesday, Thursday, and Friday, June 18, 19, and 20, 1884.

Wednesday's Proceedings.—(Concluded from p. 697.)

THE HAMMOND PRIZE.—The secretary read the report of the Committee on the Hammond Prize Essay. One essay, in German, of great worth, had been received, but it was not considered as fully covering the ground indicated by the conditions of the circular, and the prize had not been awarded. Some discussion followed, in which there seemed to be a feeling that the prize should have been awarded if an opinion could be formed from the committee's report.

MACROSCOPIC ENCEPHALIC NOMENCLATURE.—Dr. B. G. WILDER, of Ithaca, N. Y., read a paper on this subject. Like other studies of the subject by the same author, the general purpose of the paper was to facilitate true advancement and discrimination in our knowledge of the gross anatomy of the brain. It was desirable to reduce the difficulties from the ponderous terms now in use. The reader advocated the adoption of brief, monomial technical terms, mostly by subjecting those in common use to abbreviation, translation, and combination. He also spoke of the advantages of the more frequent and systematic use of the various methods of classifying the encephalic parts, and thus their names, in accordance with the segmentation of the organ, its construction of cavities and parietes, and the division of the latter into commissures, etc., and especially the recognition of certain parts as hypertrophied, atrophied, or marginal (tænia, fimbria, crista, etc.). The specific recommendations were: 1. The substitution of *mesen*, *proen*, etc., abridgments (not abbreviations), for *mesencephalon*, *prosencephalon*, and other segmental names. 2. The designation of the ventricles by the word *celia*, in composition with the segmental prefixes, which would require *mesocelia* (*mesocoele*), etc. In this connection attention was called to the substantial coincidence of the author's series of *celian* names (first published in March, 1881) with the names more recently proposed by Professor T. J. Parker.

The discussion on Dr. Wilder's paper was postponed until Thursday afternoon.

TONIC SPASM OF THE DIAPHRAGM.—Dr. A. D. ROCKWELL, of New York, then read a paper in which he related a case supposed to be of this nature.

Thursday's Proceedings.

The discussion of Dr. Wilder's paper on ENCEPHALIC NOMENCLATURE was taken up.

Dr. WILDER could remain but a few minutes, and said he would leave the following resolutions to be acted upon by the society:

Resolved, That, in the opinion of this Association, the advancement and dissemination of an accurate knowledge of the macroscopic anatomy of the brain will be facilitated by substituting for many of the polynomial terms, technical and vernacu-

lar, now in use, technical names which are brief and consist each of a single word.

Resolved, That we recognize the advantages of using such compound terms as atropia, diatela, mesocœlia, hemiseptum, præcommissura, medipendunculus, postcornu, and cognate words, proposed by Professor B. G. Wilder, and see no serious objection thereto.

Resolved, That there be appointed by the chair a Committee on Macroscopic Encephalic Nomenclature, with instructions to report at the next meeting a list of such terms as, in their judgment, may properly be recommended for use.

It was decided to act upon these resolutions on Friday.

CAN LOCOMOTOR ATAXIA BE CURED?—Dr. GREENE M. HAMMOND, of New York, read a paper on this subject, which will be published hereafter.

Dr. W. A. HAMMOND, of New York, opened the discussion, having but a few minutes to remain. He thought the suggestion by the author, that the condition was one of congestion rather than true sclerosis, was correct. He related a case in which there had been all the symptoms of locomotor ataxia, and the iodide of potassium and mercury failed to be of any benefit. There was a presumable syphilitic history. He then gave codeine to produce sleep, and nitrate of silver, but without hope of special benefit. Two weeks later the patient was cured. He thought there must have been congestion affecting the central part of the cord more than others, and probably extending to the side columns.

Dr. ROBERTS BARTHOW, of Philadelphia, agreed with the author of the paper that cases of locomotor ataxia could be cured, but what kind of cases? He had been severely criticised for having reported a case of locomotor ataxia as cured, but it was one due to mercurial poisoning, and the ataxic symptoms disappeared under iodide of potassium. Certain syphilitic cases could be cured. There ought to be a distinction made between those cases due to syphilitic gummatosa and others in which there was a history of syphilis, the symptoms, however, not being directly, but secondarily, due to this disease. He believed, moreover, that certain cases of commencing sclerosis might be arrested, but there was a difference between an arrest of sclerosis and a return of the cord to its normal state.

Dr. C. K. MILLS, of Philadelphia, had seen a great many cases of locomotor ataxia, and also some of pseudo-locomotor ataxia. He had never seen a case of the former kind cured, while he had seen a good many of the latter kind end in recovery. Distinct syphilitic ataxia might be cured, as suggested by Dr. Barthow, by antisyphilitic treatment. He believed that there was a form of meningo-myelitis—a low grade of inflammation involving the membranes and the extreme periphery of the cord—which might give rise to symptoms of typical advanced sclerosis of the posterior columns, and in these cases the patients sometimes got well. Again, he believed that sometimes cases of neuritis became cases of sclerosis. There were forms of general neuralgia which were sometimes mistaken for locomotor ataxia, and these cases were curable. It was well known, of course, that there was a form of hysterical locomotor ataxia, and sometimes a combination of exposure to syphilis on the part of the patient and a certain condition of lowered nerve tone, which gave rise to a disease which was supposed to be syphilitic, but which was hysterical in character; and this condition was cured in course of time. True typical hysterical locomotor ataxia was, of course, curable. In these cases there was not likely to be absence of the patellar reflexes. His own impression was that we could not say that there could be limited congestion of certain columnar or other regions of the cord. He thought it more probable that there was real inflammation giving rise to the ataxic symptoms.

Dr. BIRDSALL referred to some cases in which there was an apparent cure of locomotor ataxia, but some months afterward symptoms took place which showed that the disease was progressing.

MULTIPLE NEURITIS.—Dr. S. G. WEBBER, of Boston, read a paper in which he briefly reviewed the literature of the subject and narrated the histories of four cases in considerable detail, and briefly referred to eighteen cases which had come under observation comparatively recently in the Boston City Hospital. It was only within a few years that a general inflammation of the nerves had been recognized. Up to this time he had found recorded six cases with autopsies and twelve cases without. Speaking of the eighteen patients who had entered the hospital, fourteen only had come under his own observation. The youngest was nine years old. One was four years old, but there was doubt as to whether the condition was one of multiple neuritis or of infantile paralysis. The oldest patient was fifty-one years of age. More than half were between twenty and thirty years old. There was an interval of from one week to four months after the beginning of the symptoms before the patients entered the hospital. Their stay varied from two days to six months. Only a few of the patients were able after three or four months to go back to their occupations. In most of the cases no cause for the disease could be assigned. In five the patients attributed it to taking cold. Nine were females. There were three adults. Disturbance of sensation was one of the most constant and persistent symptoms. Tingling or a sleepy feeling might precede the severe pain, but within a comparatively short time the latter came on. It might be confined to one nerve district or exist in several. Sometimes the patient could mark the course of the nerve by the pain. The character of the pain was aching, boring, shooting, or burning, varying in different cases. With the pain there were great hyperæsthesia of the skin and tenderness of the muscles, pressure causing excessive pain. Pressure over the nerve trunks gave more acute pain than when applied to the muscles. When the hyperæsthesia subsided sufficiently there was found diminution of tactile and other sensations. The special senses had only rarely been affected. Exceptionally the pain and tenderness had been very slight or wanting. Motion was early disturbed. At first there was stiffness, due in part to pain; subsequently, paralysis more or less complete. The muscles were not affected equally, but the paralysis was distributed according to the nerves most affected. Within a comparatively short time the limbs became contracted, the contraction being sometimes extreme. The heels might be drawn up to the thighs, and the knees nearly against the chest. The electrical reaction of the nerves and muscles showed changes. The various tendon reflexes, both deep and superficial, were generally absent. The temperature and pulse were elevated in the earlier stages of the disease, and, in two fatal cases, throughout. The temperature usually dropped afterward to nearly or quite normal. The pulse rate continued rather high. In a few cases mild delirium was noticed, most marked at night. One or two women showed something of an hysterical disposition. In some of the patients there was general wasting of the tissues. In others there was oedema of the limbs and of the face. Excessive sweating was observed in some. One patient had an abscess in the parotid region during convalescence. In the fatal cases the respiratory muscles became paralyzed, the voice was changed, deglutition was affected, and the patient died perhaps from entrance of food into the air-passages. The symptoms having been pointed out, it would not be very difficult to make the diagnosis in marked cases. It might be differentiated from anterior polio-myelitis by the pain, the hyperæsthesia, the tenderness over the nerve trunks, the diminution of sensation, the high pulse rate, and the more

gradual onset. Progressive muscular atrophy did not cause the sensory disturbances, nor the electrical changes. In lead paralysis the sensory disturbances were not so marked. The disease might be mistaken for rheumatic fever, for in the case of three or four of the patients who came to the hospital there had been a diagnosis of rheumatism. Spinal meningitis might be recognized by the greater amount of pain in the back, which was increased by passive motion, etc. One case had been reported in which there had been a diagnosis of locomotor ataxia. Dr. Webber referred briefly to the fact that the disease had been regarded as of bacterial origin in Japan. He gave the results of the autopsy in one or two cases, referred to the fact that different opinions had been entertained with regard to whether the disease was of peripheral or central origin, and stated with regard to treatment that salicylic acid seemed to cut short the pain in some cases, that morphine was necessary to relieve it in many, that the application of a cloth soaked in a solution of carbolic acid was a comfort, and that blisters over the course of nerves were of benefit in relieving persistent hyperaesthesia. It was well to try to avoid contractions by gentle extension. Massage, extension, and electricity were to be used a long time in overcoming contraction and promoting a return of power.

CHLORIDE OF GOLD AND SODIUM IN SOME NERVOUS AFFECTIONS; A PRELIMINARY NOTE.—Dr. BARTHOLOW then read a paper in which he first referred to the use of gold as a medicinal agent by the ancients and by some physicians of more recent times. There were three headings under which it was convenient to group the therapeutic powers of gold: its so-called alterative action, its action upon the nervous system, and its action upon the genito-urinary system. He had always preferred the double chloride of gold and sodium since he had learned how little diffusible the chloride was. The double salt was readily diffusible. He had had no experience with the oxide of gold. The usual dose of the gold-and-sodium chloride was one twentieth of a grain. In this quantity, administered two or three times a day, it appeared to have, as a primary action, the power to promote destructive metamorphosis, to improve the condition of the blood, and to increase tissue strength. If its use was kept up for a time, the tissue changes became more rapid, and waste occurred in excess of repair. The tissues which yielded most readily were connective tissue and pathological formations. Hence the utility of the remedy in sclerosis, whether nervous, hepatic, or renal. Especially in posterior spinal sclerosis and chronic interstitial nephritis he found the salt very efficacious. He was far from believing, however, that lost parts could be restored. When used in locomotor ataxia early and persistently, it had seemed to him to arrest the disease in favorable cases. In three cases he thought that not only the disease had been arrested, but the patients had been improved. Thus far, no gastric or intestinal disturbance had followed the use of this remedy. Favorable results had attended its use in certain cases of kidney disease. There was a form of hypochondriasis coincident with changes in the cerebral vessels, and, it might be, depending upon those changes, in which the gold-and-sodium chloride was effective. In time the uneasiness in the head, the vertiginous and other abnormal sensations, subsided, and the mental depression cleared up. It seemed to him that the ancient opinion that gold was a cordial in cases of melancholia was also supported by modern experience. It was of use, too, in certain nervous conditions characterized by spasm. One physician had told him that he employed no other remedy in cases of pseudo-croup and laryngismus. In various cognate affections it would be found useful. The same power rendered gold of great value in certain urinary and genital affections. He had referred to chronic interstitial nephritis. He

could mention many cases of albuminuria in which the curative effects of this remedy had been conspicuous. He presented these notes in advance of a more elaborate treatment of the subject, to awaken more general interest in the use of this agent. Wider and more varied experience was necessary to fix its position.

Friday's Proceedings.

ENCEPHALIC NOMENCLATURE.—The society took up the consideration of the resolutions offered by Dr. Wilder the previous day. The first resolution, relating to the appointment of a committee, was adopted, and the others were referred to that committee. The president appointed as such committee Dr. Wilder, Dr. Spitzka, Dr. McBride, Dr. Gray, and Dr. Birdsall.

THE EFFECTS OF INJURIES OF THE SPINAL CORD UPON THE EXCRETION OF CARBONIC ANHYDRIDE.—Dr. ISAAC OTT, of Easton, Pa., read a paper on this subject. The effect of injuries of the spinal cord upon the excretion of carbonic acid had been, so far as he knew, little, if at all, noted. The action of complete division of the cord upon the pulmonary exhalation had been observed in the course of calorimetric experiments by others. That the gray matter and white matter of the cord had different functions was axiomatic, and it was an important question what relation they sustained to the excretion of carbonic acid. This subject also had relations to the pathology of the thermo-inhibitory fibers of the spinal cord. The experiments which he had made were upon rabbits. He described the apparatus used for this purpose, and said the animals were kept in a chamber of a temperature of 100° F. If the cord of a rabbit was cut at about the junction of the dorsal and lumbar regions, the temperature would fall, unless the animal were placed in a temperature which approached that of the bodily temperature, in which case it would rise. This rise of temperature was due to division of the cord, and not to external heat. Thus, if the uninjured animal was placed in the warm chamber for some hours, no rise of bodily temperature took place, but, when the cord was divided and the animal replaced in the warm chamber, the temperature rose. If the cord was completely exposed, but not cut, the temperature would rise only a few tenths of a degree. If on the following day the same cord was divided, the temperature, although it would fall at first, would rise again several degrees. It made no difference in the majority of cases whether the white or the gray matter was divided. No rise of temperature had been observed after an hour, except in two cases. In most cases it then fell below normal. Professor H. C. Wood had made six calorimetric experiments, during which the cord was completely divided. In his six cases the excretion of carbonic acid was increased except in two, and in one of these much blood was lost.

A CONTRIBUTION TO THE STUDY OF HYSTERIA AS BEARING ON THE QUESTION OF OÖPHORECTOMY.—Dr. G. L. WALTON, of Boston, read a paper with this title. The operation should be limited to cases in which the symptoms were secondary to pelvic disturbance (such as cellulitis and cystic degeneration of the ovaries), as distinguished from the far more numerous cases in which the local symptoms were secondary to constitutional disorder. We might have to include certain cases in which no organic disease was suspected, but should be extremely conservative in this respect. We were ignorant of the exact relation of hysteria to ovarian disease. The theory was suggested that the loss of function in the cortical cerebral cells in hemi-anesthesia, for example, was due to spasm of the cortical blood-vessels, analogous to that supposed to exist in some forms of migraine. In favor of this theory were mentioned the rapidity of onset and disappearance of symptoms, the regularity of the "transfer," and the fact that other vaso-motor irregularities were common in hysterical patients. As supporting the theory,

Dr. Walton mentioned a case, previously published by him, in which left-sided spastic migraine coexisted with right-sided hemianæsthesia, and with left-sided intermittent retinal ischæmia, the blood-vessels of the right eye remaining unaltered. If this theory was correct, the starting-point for the vascular spasm lay probably in irritation of the sympathetic nerves of the ovaries in the cases under consideration. Theory, however, was of minor importance as compared with the practical questions, Was hysteria ever secondary to pelvic disease? and Could it ever be relieved by removal of the ovaries? Both questions could be answered probably in the affirmative, in view of reported cases. As an illustrative case of the rôle played by hysteria as an additional indication for operation, the case was reported of a patient operated upon by another physician, in which hemianæsthesia and convulsive attacks, added to extreme debility and severe pain during and between the catamenial periods, furnished the ground for operating after failure of other treatment. The ovaries were removed without the tubes. Relief of all symptoms followed, including the hemianæsthesia and the hysterical convulsions, and the general condition of the patient was much improved. The improvement had been continuous up to the present time, over four months after the operation.

An interesting discussion followed, by Dr. E. C. SPITZKA, of New York, Dr. MILLS, Dr. J. J. PUTNAM, of Boston, Dr. ROCKWELL, Dr. M. P. JACOBI, of New York, and the author of the paper.

TYPICAL HYSTERICAL SYMPTOMS IN MEN DUE TO INJURY, AND THEIR MEDICO-LEGAL SIGNIFICANCE.—Dr. PUTNAM read a paper in which he said the important point was that, more commonly than had been thought, there were symptoms of typical hemianæsthesia following injuries of the kind referred to, such as the patient could not have imitated even though all the other symptoms of hysteria had been present and had disappeared. Three cases of this kind were referred to, all occurring in men, and the fact was commented upon as affording valuable evidence of disease in cases which might have been supposed to be cases of simulation. Similar cases had been reported by German observers.

SCLEROSIS OF THE GREATER PART OF THE MOTOR CORTICAL ZONE OF BOTH HEMISPHERES, WITH SECONDARY DEGENERATION OF THE PYRAMIDAL TRACTS.—Dr. SARAH J. McNUTT, of New York, presented specimens and read the history of a case. The patient, a girl, had never been well, had shown symptoms pertaining to the nervous system, and it was believed by the author that the lesions found their origin in injury during instrumental delivery.

OPHTHALMOPLÉGIA EXTERNA PROGRESSIVA.—Dr. BIRDSALL reported two cases of slowly progressive paresis of all the external muscles of both eyes, the levator palpebræ, the recti, and the oblique, producing partial ptosis and nearly complete immobility of the eyeballs, with complete preservation of the functions of the internal ocular muscles, the iris, and the ciliary muscles. The accommodation was normal, as well as the reaction of the iris to light and the accommodative movements. There was no perceptible lesion of the fundus. Vision was normal in one case, and defective from irregular astigmatism in the other. There was no evidence of disease in any other cranial nerve or in any other part of the body; no headache, and no suspicion of syphilis. Both patients were males, aged, respectively, seventeen and twenty-nine years. Slower improvement occurred in one case under large doses of iodide of potassium and faradization of the eyes than in the other. Both cases were still under treatment. Dr. Birdsall held that the trouble could not be due to intra-orbital disease, nor to an intra-cranial lesion involving primarily the trunks of the nerves implicated, on account of the escape of those branches of the third nerve

which supplied the iris and the ciliary muscle; that it must therefore, be an affection of the nuclei of origin of the sixth, fourth, and parts of the third nerves, which supplied the external ocular muscles, these parts representing an associated system concerned in the movements of the eyeballs and in lifting the upper lid, somewhat distinct from the iris and the ciliary muscle, which were more intimately connected with the functions of the optic nerve, and with the regulation of light, and probably proceeded, so far as the sphincter iridis and the ciliary muscle were concerned, from nuclei in close proximity to, but distinct from, the nucleus of origin of the remaining third-nerve fibers, which supplied the external ocular muscles. A gross lesion or a local softening, such as a neoplasm, a meningitis, or an arteritis, could hardly affect so widely separated nuclei as the third, fourth, and sixth, and not at the same time affect the ciliary and pupillary centers and other neural tracts; degeneration within this system of associated muscles, nerve tracts, and centers, similar to the degeneration of progressive muscular atrophy and of labio-glossopharyngeal paralysis, appeared to be the most consistent theory of the pathology of the cases. Hutchinson, in 1869, had advanced this view (based on an atrophy in which the lesion was found by Dr. Gowers) to account for this class of cases, which von Graefe first called attention to. In most of Mr. Hutchinson's cases, however, the iris and the ciliary muscle were affected, and either this condition or indications of disease in other parts of the nervous system were present in all of his seventeen cases. Reference was made to the allied cases by other authors, and to certain relations between tabes dorsalis and progressive muscular atrophy, and also to syphilitic ocular affections.

A STUDY OF THE ETIOLOGY OF TABES DORSALIS, WITH SPECIAL REFERENCE TO THE EFFICIENCY OF SYPHILIS.—Dr. E. C. SEGUIN, of New York, not able to be present, had requested Dr. Birdsall to present the statistics which he had prepared from notes in private practice. There were seventy-two cases. Of these, twenty-two, or 30 per cent., gave a history of chancre; of chancre and secondary symptoms there were sixteen, or 22 per cent. Those giving no history of chancre or secondary symptoms were fourteen, or 19 per cent. Those in which there was no mention with regard to syphilis there were twenty, or 28 per cent. Thus, there was 52 per cent. with a history of syphilis, and 48 per cent. in which syphilis was not mentioned.

Dr. BIRDSALL said that at the last meeting of the association he himself had given statistics of about forty-two cases, of which only 9 per cent. gave a syphilitic history.

Dr. DANA was quite sure that among syphilitic sailors not more than one in a thousand had tabes.

MY SOPHOBIA AND *Folie du doute*.—Dr. DANA then read a paper on this subject. Two cases, one of each affection, of a marked kind, were related. The questions were raised, whether mysophobia should be classed with *folie du doute*, what significance should be given to morbid fears, and where they should be placed. The condition of *folie du doute* was usually classed among the monomanias. In most cases the disease could not be considered an insanity unless this term was used in a very wide sense. Dr. Dana had at first been inclined to think that the two classes of cases, mysophobia and *folie du doute*, could not be related, but he had changed his mind. It now seemed they were both varieties of abortive monomania, so to speak—conditions showing a morbid state of the brain in one direction. As to the interpretation which should be put upon morbid fears, he thought they were all to be regarded as simply psychopathic symptoms which were sometimes found in insanity, hypochondriasis, etc.

Dr. SPITZKA had seen as many as eighteen cases within fourteen months, and he had been struck by the fact that heredity played a very small part in the etiology; masturbation, among men, was the great cause. The results of treatment, medicinal and moral, had been quite gratifying.

Dr. LEONARD WEBER, of New York, could not see why mysophobia should be raised to the dignity of a subdivision of *folie du doute*. As to the cause, there was usually a history of exhaustion from masturbation or sexual intercourse in the male, and uterine disease in the female. He regarded mysophobia as simply one of the symptoms of hypochondria in the male and of hysteria in the female.

Dr. DANA did not think that, if Dr. Weber should see a marked case of mysophobia, he would confound it with hypochondriasis or hysteria. He did not understand that any author made a separate disease of the affection, but that it was a name for a psychopathic symptom, indicating that the person had a particular form of monomania or insanity. He had seen very little benefit from other than moral treatment.

THE MODIFYING EFFECT OF ANÆSTHESIA ON THE GALVANIC REACTION OF THE SPECIAL SENSES.—Dr. MASSEY related a case of partial anæsthesia of the fifth nerve. The patient was healthy, aged forty-eight, and became blind in both eyes, in the one year sooner than in the other. There was no assignable cause. Over the left eye there was a partially anæsthetic spot. A needle might be thrust through the skin without pain, but it was felt. To the faradaic current sensation was normal, and to the galvanic current the local effect on the skin was normal, but the sensation of tingling and the perception of taste were two thirds lessened. Vertigo was readily produced with the poles placed anywhere but over the anæsthetic area. In this area thirty-five cells were required, while but twelve sufficed at the opposite side of the forehead. No vision could be induced. The treatment was by the interrupted current to the eye and the numb spot, and increasing doses of sulphate of strychnine. There was an apparent result of decided increase in sensation at the numb spot. With increasing sensation there was a decrease of the number of cells required to produce dizziness and taste. This was a corroboration of facts observed by Althaus.

Dr. ROCKWELL said it was an interesting fact that sometimes when taste and smell were lost the galvanic current would fail to give the slightest sensation of metallic taste, and it was only as the patient recovered this sensibility that perception of metallic taste returned.

CEREBRO-SPINAL SATURNISM.—Dr. G. W. JACOBY related a case of marked saturnine ataxia ending in recovery under the use of iodide of potassium. He had been able to find reference to only three such cases.

Dr. AMIDON thought there should be no more doubt about the possibility of lead producing ataxia than about arsenic and mercury.

Dr. BIRDSALL had observed marked tremor in lead poisoning, but never absolute paralysis.

Dr. DANA said that cases of lead poisoning were quite common, and it was quite certain few had observed such effects as those mentioned by Dr. Jacoby.

The association then adjourned, to meet at the call of the council in 1885.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 20, 1884.

The President, Dr. JOHN A. MCCORMICK, in the chair.

THE TREATMENT OF EPILEPSY.—Dr. LONDON CARTER GRAY read a paper on this subject. [See p. 710.]

Dr. ROCHESTER thought the reader of the paper had covered

the ground so well that very little remained to be said. He coincided with him with regard to the variability in point of time between the paroxysms. He recalled the cases of two sisters, now under his observation. One was about thirty years of age, and the other eighteen. The elder had had attacks, ever since the menses first began, regularly every month, of *grand mal*. Lately—that is, within the last ten years—she had had *petit mal*. The speaker had never seen her with an attack of *petit mal*, but the family said that she had them as frequently as every hour; then she would not have them for several days. This case had first come under his observation four years ago. There were at that time symptoms of uterine difficulty. The uterus was replaced, supported by a pessary, and hot-water injections were advised, but no medication, except attention to the general health. The following year, instead of having attacks every month, and some months twice, she had three attacks in a year. The second year she had two attacks. From that time to the present none, and he had seen her two days before this meeting. He did not regard the patient as cured. He regarded the attacks as simply postponed. The younger sister had *grand mal*, and, having been placed on the bromide treatment, with proper attention to her general health and diet, within the course of six months had had no attacks whatever. The peculiarity of these attacks was, that they appeared at certain times in the day. This was always between the hours of six and seven in the morning or evening. He had heard that the patient had had an attack within a month, and that it came on between nine and ten o'clock in the evening. He believed that there was no routine treatment for epilepsy, and certainly no cure for it.

Dr. HARCOURT referred to a case which occurred in his practice about four months ago, which he adduced in illustration of some of Dr. Gray's remarks. He was called to see a gentleman of fifty-seven years who was suffering from an unusually severe attack of migraine, confined to the left side. The usual remedies were employed without avail. Nothing afforded any relief except doses of Magendie's solution, ranging from twelve to eighteen drops, administered hypodermically. The patient had to be kept under the influence of the drug for almost five days. On the fifth day the doctor was sent for in haste. When he saw the patient he asked him how he felt, but received no reply. He repeated the question, with the same result, and the patient's wife said he had not spoken to her for about an hour. He was then raised to a sitting posture in the bed, and, while the doctor was examining the pulse, was seized with a very severe epileptic convulsion. This was the first he had ever had. Rest and quietude were enjoined, and a mixture containing equal parts of bromide of potassium and bromide of sodium was ordered. The next day he was unconscious as well as aphasic. The unconsciousness lasted eight days; then improvement gradually took place, so that in about two weeks consciousness was completely restored. It was quite different with regard to his speech; the aphasia lasted fully three weeks. He had the same name for every one that spoke to him, and to questions, no matter how different, he always gave the same answer; in fact, his vocabulary consisted of about half a dozen words, or rather expressions. He was quite conscious of his mistakes about the names of objects, yet, when a slate and pencil were given him, he would write down the same unmeaning expressions as before. During the whole time there was no difficulty with the urinary or digestive organs, the appetite was very good, he was much inclined to sleep, and the temperature differed very little from the normal during the attack. There was no paralysis except the aphasia, nor any derangement of sensibility. There was no syphilitic history, nor was there any irritation of either the genital or the digestive organs

that could be discovered. His family history was good; he had suffered from occasional malarial attacks, and had some difficulty with the left side of the heart, which was the result, probably, of an attack of articular rheumatism which he had about twelve months ago. The left pupil was considerably dilated. The treatment included mild, nutritious food; tonics, such as quinine, strychnine, etc.; and, on account of the epileptic seizure, the bromides of potassium and sodium were freely administered, and subsequently alternated with phosphide of zinc in pills. It was almost two months after the attack before he was able to attend to any business. He had been perfectly well ever since.

NOTES ON HOSPITAL TREATMENT.—A paper with this title, by Dr. B. F. WESTBROOK and Dr. ISAAC H. PLATT, was read by Dr. PLATT. [See p. 714.]

Dr. WESTBROOK wished to call attention to one or two points which had only been alluded to in the paper, and which deserved some further mention. In the remarks of Dr. Berger before the *Société de chirurgie*, referred to in the paper, that gentleman had said that the contra-indications to Estlander's operation were tubercular disease and amyloid degeneration. In regard to the latter, Dr. Westbrook wished to call the attention of the Society to the fact that, in 1881, Dr. Kretzschmar and himself had reported the case of a young girl who had suffered from empyema, with extensive amyloid degeneration of the liver and kidneys. The disease had been in existence several months before she came under Dr. Kretzschmar's care. At that time there was a fistulous opening in the left second intercostal space, a little to the left of the sternum. From this point the pus had burrowed beneath the skin for two inches, and discharged through a second opening below. There were one or two scars lower down, in the axillary and dorsal regions indicating the sites of former openings. The side was much retracted, and stinking pus issued from the sinuses. The liver occupied almost the entire accessible portion of the abdomen, extending downward and to the left far beyond the umbilicus. There was polyuria, with very copious albuminuria. The patient was in a condition of great emaciation and etiolation. The two fistulous openings were united by laying open the tissue which separated them, and a free incision was made in the second intercostal space large enough to admit the finger readily. The cavity was then washed out daily with an antiseptic solution, introduced through a catheter; and the patient received large doses of dialyzed iron and other tonics. The cavity gradually closed, and, *pari passu*, the liver steadily diminished in size, until it finally retired beneath the costal cartilages, while the polyuria and albuminuria slowly diminished, until they finally disappeared. The girl was now a robust and healthy person. The case was of great interest surgically, as showing that, even after extensive amyloid change had occurred, the prognosis was not hopeless, provided the suppurating cavity could be successfully treated.

In regard to the operation of von Langenbeck, it was a particularly good one in cases where a large accumulation of pus presented, as, if successfully managed, it gave great control over the discharge of the matter. His method was to separate the periosteum from the rib, and then use the trephine carefully, so as to remove the button of bone without disturbing the inner periosteum. When this was accomplished, the inner periosteum and pleura would be seen to bulge, and, with the wound held nicely open so that everything was in view, these structures could be carefully punctured and the pus allowed to escape as slowly as desired. The advantage of this control over the discharge was great, on account of the danger of syncope from the rapid removal of a large effusion. In such cases the intrathoracic pressure was positive, the heart was compressed, and,

owing to the obstructed diastole, the venous blood accumulated in the large trunks. When the pressure was suddenly removed, the blood rushing into the right heart over-distended it and might paralyze it in diastole. He had himself assisted at an operation in which, owing to the rapid evacuation, there was almost fatal syncope, and it was only by the prompt use of stimulants hypodermically that the patient was rescued from immediate death. In many cases he thought it advisable to remove a quantity of the fluid by aspiration, a short time before the operation, as had been done in one of the cases reported.

Dr. P. H. KRETZSCHMAR desired to say a few words in connection with the observations in the paper on night-sweats in phthisis, not so much in discussion of what had been said as to give emphasis to other methods of treatment. He referred particularly to two different modes—namely, sponging the patient with vinegar and water in the evening, and the administration of cold sage-tea at bedtime. The method advocated by Dr. Westbrook and Dr. Platt might be a good one, and in a hospital was undoubtedly an eminently successful one, but it could not be so well prescribed in private practice. Referring to the method recommended by Dr. J. H. Tyndale, of New York—namely, the daily subcutaneous injection of carbolic acid—he could not say he approved of it. He had tried it in five instances, covering a period in one instance of forty-two days, without any advantage to the patients, and, if the experience gained in five cases was worth anything, he would not advocate the daily injections of carbolic acid as an improvement on the older methods of treating pulmonary phthisis. To be sure, it produced no abscesses, but, if this was its greatest merit, he preferred to practice other and more efficacious methods. Dr. Tyndale, he said, was very enthusiastic about the favorable results obtained by daily injections of one drachm or more of a two-per-cent. solution of pure carbolic acid, and had informed him not only that he had seen a number of cases in which the hectic fever and the night-sweats had disappeared, but that he expected to see the antiseptic treatment of phthisis accepted as the treatment of consumption before long.

Dr. ROCKWELL thought there was an error in the date of the first presentation to the profession of the method of inserting the end of a tube in some dis-infecting liquid. It would be found fully stated in the State society's "Transactions" for 1879 or 1880. He thought it just that the credit of the measure should be given to the one to whom it belonged—namely, an American surgeon.

Dr. WESTBROOK would like to state that the method of continuous irrigation, as it was called, by having a tube pass from the thorax into a vessel containing a disinfectant, or even water, dated back even farther than Dr. Rockwell had stated. He had run across it in looking over an article by Wintrich, in Billroth's "Handbuch der speciellen Pathologie und Therapie," published in 1857. He referred to this operation as having been employed in France and Germany.

Z. T. EMERY, M. D., *Secretary*.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of May 28, 1884.

REPORT OF THE OBSTETRIC DEPARTMENT OF THE PHILADELPHIA HOSPITAL FOR THE QUARTER ENDING APRIL 30, 1884.—Dr. THEOPHILUS PARVIN read the following:

By the kindness of Dr. Bernardy, my associate in term of service at the Philadelphia Hospital, the entire charge of the obstetric department was given me, while he had that of diseases of women and children. It seemed to me that by this division of labor both the interests of patients and of medicine would be best subserved; and I desire publicly, as I have done

privately, to express my gratitude to Dr. Bernardy for his consent to this arrangement. Further, let me gratefully acknowledge the zealous and faithful work of the internes serving under me in the collection of statistics and making observations, without which the preparation of this paper would have been impossible. My debt to these gentlemen, Dr. Phillips, Dr. Parkhill, Dr. Randall, Dr. Lazarus, and Dr. Voorhees, is very great. Some of the statistics and observations, or their results, have been given elsewhere; others will be presented you now, and still others wait another opportunity.

And now, gentlemen of the Philadelphia County Medical Society, unexpectedly invited to read a paper before you, and thanking you for the honor, my endeavor will be to present facts rather than theories, results more than reasoning, hoping that possibly some of the facts and results may be of present interest and of future use, and knowing that the discussion they may evoke will have these characteristics.

During my term of service at the hospital seventy-two women were confined; this number, however, includes two cases of premature labor, and one of miscarriage at six months and a half; there was one case of twins. In sixty-nine cases the vertex presented; presentation of a foot, of the breech, and of the shoulder, each occurred once; the presentation in the case of miscarriage is not given. Forty of the seventy-two mothers were primiparæ. Of seventy-three children born, thirty-nine were females and thirty-four males—a preponderance of female births which is at least remarkable.* Fifty-one of the mothers were white, twenty-one black. The average weight of the white children was seven pounds and a little more than two ounces; that of the colored children, seven pounds thirteen ounces and a fifth; there was thus a difference of eleven ounces in favor of the latter. The heaviest child was a white one, its mother a primipara; its weight was nine pounds and twelve ounces. Comparing the difference between white male and female children, it was a little more than one pound,† while the corresponding difference in black children was only two ounces and one fifth. Of course, the number of cases observed is too small to allow a positive conclusion, but it suggests that the difference between the two sexes in the white and in the black races in regard to weight of the new-born is much more marked in the former than in the latter. If the results obtained in these limited observations should be confirmed by more extensive ones, we would have a race distinction which is in perfect correspondence with a known ethnological law.

* The general relation between female and male births is 100 to 106. Illegitimacy slightly lessens this proportion, that is, increases the number of females born; and this is a factor adding to the number of female births at the Philadelphia Hospital, for illegitimate births are there the more numerous, but still it is not sufficiently potent to entirely reverse the law. This abnormal disparity between male and female births is not a mere accident of the three months, for, taking all the births of 1882 and 1883 and adding those of the first quarter of 1884. I find the number is 371, and of these 173 were males and 198 females. It would be interesting to examine the hospital record for a long series of years and ascertain if this disparity is the same, and this it is my intention to do.

While referring to the normal relation between male and female births, and the effect of illegitimacy upon it, I may mention the curious contradictions of these laws given by the statistics of Roumania: These show that the proportion of female to male births is 100 to 116, and, further, this proportion is not changed by illegitimacy.

† The difference in the weights of white male and female children is greater than it should be from these facts: first, a larger number of female children; second, in two cases of premature labor and in that of twins the children were females, and, their weights being small, of course reduced the average.

As to the average weight of the new-born, I may repeat what has been published elsewhere. At my request Dr. Phillips found, from examination of the Philadelphia Hospital records of white children born there, that this weight was seven pounds four and eight tenths of an ounce. The number from which this result was obtained was one thousand—five hundred males and five hundred females. The average weight of the males was seven pounds and seven and nine tenths of an ounce, while that of the females was seven pounds one ounce and seven tenths.

The average duration of labor in the black women was very nearly fifteen hours, while in the white it was thirteen hours and twenty-five minutes—showing a difference in favor of the latter of more than an hour and a half; that is, labor is shorter in the white than in the black women. This result is an unexpected one; nevertheless, here again the number of cases is too small to justify a positive conclusion. The duration of labor in white primiparæ was fourteen hours nine minutes; in black, nearly eighteen hours; in white multiparæ, twelve hours forty-two minutes; in black, ten hours sixteen minutes. The duration of the third stage of labor was in the whites twenty-one minutes, and in the colored thirty-three minutes.

And here let me, for the time at least, lay aside these statistics to consider the conduct of the third stage of labor. The subject invites consideration in this paper by the following facts: One of the colored women failing to expel the placenta within an hour after the birth of her child, the gentleman having charge of the case introduced his hand into the uterus and removed the after-birth by piecemeal, or at least the greater portion of it. That patient had septicæmia, and infected each of her neighbors; the colored obstetric ward at this time was terribly crowded, the beds so close together that a patient could almost roll from her own bed into the next one.

Shortly after this I was called to a woman in one of the white obstetric wards, who had been delivered of her child three hours before, but the placenta was retained. The patient's pulse was good; there was no hæmorrhage, nothing but the simple fact of delay in the third stage of labor. A little friction of the uterus, and compression of its fundus through the abdominal wall, caused the expulsion of the placenta in a few minutes. There was no fragment of the after-birth or of the membranes retained; the genital organs of the patient were not touched either by the interne or by myself in this delivery; nevertheless she had septicæmia. Finally, a third patient had the placenta retained for nearly five hours, and then it was expelled. She had septicæmia. These three patients recovered.

In studying the phenomena of placental delivery we find there are three stages, viz.: First, the separation of the placenta from the uterus; second, its extrusion from the uterine cavity after its conversion into a foreign body by its detachment; and third, its expulsion from the vagina. Delay may occur in any one of these stages—that in the last, of course, being the most easily remedied. The separation of the placenta from the uterus is made by uterine retraction, and probably, instead of being marginal in some cases, central in others, is usually general.

A practical question is here presented: Is this separation facilitated by ligating the placental end of the cord; in other words, ought the obstetrician to use two ligatures, or one? The advocates of two ligatures claim that in this case the placenta, being larger, fuller, and firmer, can not so well follow the retraction of the uterus as it can if thin and flexible from the loss of blood, and therefore in the former case is more certainly and completely detached. This is doubted by some, denied by others; nevertheless it seems rational. But, admitting its truth, it is certain that if a single ligature be used the placenta is

smaller, and hence can pass through a smaller uterine orifice; this practice, no matter what its effect upon the first, facilitates the second stage of placental delivery.

After uterine retraction has separated the placenta, uterine contractions expel it into the vagina, while the abdominal muscles, aided, it may be, in some slight measure by the contractions of the vagina, cause its final expulsion.

In the spontaneous discharge of the placenta from the uterus, it does not seem yet settled whether the placenta usually presents the fetal surface or the margin at the os uteri. The doctrine of Matthews Duncan has probably for the last few years been most generally adopted by British and American obstetricians; my own belief is that it is correct—at least in some thirty cases of delivery, taking the method advised by Dr. Duncan to test the presentation, I found in the majority that the placenta descended through the os with its margin presenting. French obstetricians have not accepted Duncan's views; and indeed the recent observations of Pinard and others seem to prove that the placenta usually presents by its fetal surface.

Now, a practical lesson from this study of the mechanism of placental delivery is, that, adopting the view of Duncan, traction upon the cord—a traction which, of course, is never to be made when the placenta is still attached to the uterus—is mischievous, for it interferes with the normal presentation; but, if the normal presentation be that of the fetal surface, such traction facilitates the second stage of delivery.

The time required for the spontaneous delivery of the placenta, as observed by Kabierske in one hundred cases in the Strassburg Maternity, varied from thirty minutes to twelve hours, as is shown by the following table:

24 times.....	30 minutes.
20 times.....	1 hour.
25 times.....	2 hours.
11 times.....	3 hours.
9 times.....	4 hours.
5 times.....	5 hours.
8 times.....	6 hours.
2 times.....	8 hours.
1 time.....	12 hours.

Few practitioners are willing to trust nature this far, but guard against delay in the delivery of the placenta by following the uterus down with the hand upon the patient's abdomen, employing expression and the method of the Dublin school, as the fetus is expelled, thus keeping the hand upon the uterus at least as a sentinel to warn of uterine relaxation, and, better still, as a stimulus to and a re-enforcement of uterine retraction. A general observance of this practice reduces to a minimum cases of post-partum hemorrhage, of delay in the discharge of the placenta, and of hour-glass contraction.

And now, coming to the practical point of more direct interference with the third stage of labor, what circumstances demand it, and how is it to be made?

I believe the teaching of the Philadelphia school has been favorable to early interference—at least such delay as shown by the Strassburg statistics would not have been allowed by her great teachers. Dr. Hodge advised moderate traction upon the cord at the end of half an hour, or of an hour; and Dr. Meigs stated that he never waited for the spontaneous extrusion of the placenta more than an hour and a half, for he always supposed that, if it would not take place in one hour, there was little prospect for its taking place in twenty-four hours. Now, with all reverence for the names of these great men, and with, I trust, due personal humility, it seems to me their teaching was wrong. Even moderate traction upon the cord, if the placenta be attached, is liable to do harm, and traction is not necessary

to find out whether it is detached. The statistics quoted prove that one can not make a time-table for Nature in regard to placental delivery; she may effect that delivery long after Dr. Meigs's hour has passed.

As long as the placenta is wholly attached, hemorrhage is impossible; the placenta is still a living structure, and one with the uterus; to tear it loose, to directly detach it from the uterus, opens the way for perilous hemorrhage. Not only this, but such artificial detachment is usually incomplete, is liable to injure the uterine tissue, and the operator's hand may be the bearer of septic germs, or these may pass in with the air admitted during the manipulation, and find a congenial soil for their development in fragments of placenta, or blood-clots that are retained in the uterus. Therefore, unless hemorrhage demands immediate interference, the obstetrician refrains from passing his hand into the uterine cavity for the removal of an attached placenta; a completely adherent placenta is not so dangerous as the intra-uterine use of the hand for its detachment. I believe, then, that armed expectation is wise in the latter case, only endeavoring, by suitable compression of the uterus with the hand acting through the abdominal wall, to determine or assist that retraction of the organ which is nature's method of separating the placenta. After the detachment of the placenta—a fact which is best learned by feeling a part of the organ with the finger passed into the mouth of the womb—we may, by friction and compression of the uterus, if needed, evoke uterine contractions which will cause its expulsion. Those who believe that the placenta presents its fetal surface at the os uteri, urge the value of moderate and continuous traction upon the cord, thus assisting the molding of the mass to the orifice through which it is to come. This conservative view as to the management of so-called retained placenta has been strongly presented by Siredey in his recent work upon puerperal diseases. The common expression, retention of the placenta, means very different conditions, each requiring its appropriate treatment.

Passing now to another topic, the relation of acute infectious diseases to the pregnant, or to the puerperal state. The history of the three months furnishes two cases of measles in pregnancy, and one of scarlet fever in puerperality. A report of the latter will appear in the next number of the "American Journal of the Medical Sciences," and therefore is not presented here. In both the cases of measles the eruption did not appear until after labor, but in each the interval was so short that the disease was present in pregnancy. In one case the disease had no evident effect upon pregnancy, and the puerperal period was normal. But in the other I believe premature labor was caused by the disease, for, though no accurate or definite information could be had from the mother as to when the pregnancy began—she was half idiotic—the child was small, feeble, and imperfectly developed. Abortion or premature labor is the result in the majority of cases when measles occur in pregnancy. The second patient had septicaemia, but, even with this complication, and though quite ill, made a perfect recovery.

Puerperal temperature is a subject of importance to which brief reference will now be made. I have here a temperature chart made by Dr. Phillips and Dr. Randall, from the charts of twelve women in whom puerperal convalescence was undisturbed; the chart includes eight days of the puerperal period. The highest temperature was on the fifth day, and then it was only 98° 8' F.

Temperature record from two daily averages of twelve cases of normal recovery from labor. The first temperature is that of a woman delivered within the preceding twenty-four hours:

Morning,	98° 4'	98° 4'	98° 2'	98° 2'	98° 2'	98° 4'	98° 0'	98° 2'
Evening,	98° 8'	98° 8'	98° 8'	98° 4'	98° 9'	98° 8'	98° 4'	98° 4'

There were opportunities for observing the influence of apparently trifling causes in producing marked elevations of temperature. Thus one patient, whose condition was normal, insisted upon getting up the fifth day and dressing herself; she did so notwithstanding the remonstrance of the nurse, and her temperature rose to a little above 100°. Either from feeling badly, or possibly from the moral influence of the thermometer, she was willing to return to her bed. Another patient, doing well apparently, save that her temperature was 100°, got up the fourth day; her temperature rose to 103°; she returned to bed; her temperature in a few hours was only 100°, and in two days was normal. In another case an irritant cathartic, or that which proved to be such—the bitartrate of potassium—was given the fifth day, and for a short time the patient's temperature was nearly 105°, but the next day it was normal. On the other hand, the gravity of a case may be much greater than the temperature indicates. Thus in a patient with fatal septicæmia the temperature during the first five days only once rose as high as 101°, a part of the time was only 99°; on the sixth day rose to 102.2°, on the seventh fell to 101°, and then, on the morning of the eighth, was 103.2°; she died that day. In the abstract of a paper by Dr. Angus Macdonald ("British Medical Journal," May 10th) the statement is made that in some of the worst and most rapidly fatal cases of septicæmia the temperature never rose over 101°, if so high. The explanation given was that the vital centers were attacked with such a quantity of the poison that death occurred before the tissue-changes ending in heat took place. Dr. Macdonald further referred to the important difference in the course of temperature in lymphatic and in phlebotic septicæmia, there being in the former a single rigor with sudden and continuous high temperature, and in the latter a series of successive rigors followed by corresponding depressions. Siredey has previously remarked that a temperature chart of a patient having puerperal septicæmia will readily show whether the disease is the lymphatic or the phlebotic form. When Oslander, at the beginning of the present century, and others since him, described remittent puerperal fever, doubtless they had under observation cases of phlebotic septicæmia. I am sure these sudden and marked declines of temperature have led practitioners into false diagnoses, especially since attention was redirected by two distinguished American physicians to the occurrence of malarial fever in childbed; we would much rather believe a patient had this disorder than septicæmia, and such desire may assist the diagnostic error—an error I know that I have committed, and I have more than once witnessed its commission.*

(To be concluded.)

MICHIGAN STATE MEDICAL SOCIETY.

Nineteenth Annual Meeting, held at Grand Rapids, Wednesday and Thursday, June 11 and 12, 1884.

Wednesday's Proceedings.

ABOUT two hundred physicians being present, the meeting was called to order by the President, Dr. A. F. WHELAN, of Hillsdale. The Rev. B. F. SARGENT invoked the divine blessing, and the Hon. N. BELKNAP, Mayor of Grand Rapids, delivered an address of welcome.

*If any one should doubt the difficulty sometimes presented in diagnosing between septicæmia and malaria in childbed, he may be referred to a lecture delivered by Professor Luigi Mangiagalli upon malaria in its relation with the puerperal state ("Annali di Ostetricia, Ginecologia e Pediatria," 1883). In this lecture Mangiagalli remarks that, in the puerperium, the diagnosis between septicæmia and malarial infection is not always easy; that the difficulty may be most grave—almost insuperable.

COURTESIES AND ENTERTAINMENTS.—Mr. POWERS tendered his Opera House for the two days' session. The PENINSULAR CLUB offered the freedom of their club-house to the members of the Society during their sojourn in the city. Dr. and Mrs. CHARLES SHEPARD tendered the members of the Society a reception at their residence, No. 98 Ottawa Street. President HUGENBART offered to provide a special railway train for an excursion to Traverse City.

THE SECRETARY'S REPORT.—Dr. G. E. RANNEY, the secretary, read his report. There were 246 names on the roll of membership. Two honorary members had died during the past year, Dr. J. H. Jerome, of Saginaw, and Dr. William Brownell, of Utica. He had collected in dues and fees \$653, which he had expended or handed over to the treasurer, Dr. Smart. He now had on hand \$49.91.

THE REPORT ON SURGERY.—Dr. DONALD MACLEAN, chairman of the Committee on Surgery, gave a brief history of some interesting cases of surgery which he had had charge of during the past five months. He presented a number of his patients, and gave what might be called an excellent clinic.

EXPERT TESTIMONY.—Dr. S. P. DUFFIELD, of Dearbornville, read a very interesting paper in which he upheld the right of physicians to extra compensation for expert testimony in the courts. He cited a case in which he had charged \$250 for making an examination after poisoning by strychnine. The supervisors refused to pay his bill, but they did pay it rather than have the case go to the courts.

Dr. PRATT, of Kalamazoo, thought that medical men should confer with the legal profession to secure a different way of securing skilled testimony in the courts. We should seek to bring out scientific testimony, and not testimony leaning to one side. The courts should procure expert evidence, and this evidence should be scientific and nothing else.

THE DRY TREATMENT OF CHRONIC SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR was the title of a paper by Dr. C. J. LUNDY, of Detroit.

Dr. McCALL, of Lapeer, discussed the subject at some length, and spoke highly of the use of boric acid.

THE USE OF TURPENTINE IN DIPHTHERIA.—Dr. GEORGE, of Ann Arbor, read a paper in which he related a favorable experience with this method of treatment. Out of a great number of cases, he had lost only one patient since he began to use turpentine.

EXPLORATION OF THE MALE URETHRA.—Dr. H. O. WALKER, of Detroit, presented a paper on this subject which was full of good suggestions. He also showed an instrument, a modification of Bigelow's evacuator, which was the best instrument he knew of for removing calculous fragments from the bladder.

PROSTATIC HYPERTROPHY.—Dr. A. B. PALMER, of Ann Arbor, read an interesting paper, giving histories of cases of hypertrophy of the prostate gland in old persons. He dilated the entire urinary passage by causing the patient to pass his urine, and, while a full stream was flowing, he seized the end of the penis with his thumb and finger, and, stopping the flow of urine, had the patient force the urine forward. In this way the entire passage was dilated.

THE DIAGNOSIS OF TUMORS.—Dr. T. A. MCGRAW, of Detroit, read a paper in which he advocated early and complete removal of all tumors.

Thursday's Proceedings.

PERINEPHRITIC ABSCESS.—Dr. G. K. JOHNSON, of Grand Rapids, read an interesting paper on perinephritic abscess, and related the histories of two cases which he had treated successfully.

THE TREATMENT OF ULCERS was the title of a paper read by Dr. DE CAMP, of Grand Rapids.

THE REPORT OF THE COMMITTEE ON ADMISSIONS was then made, showing about eighty applicants for membership. It was moved to amend the by-laws so that each applicant hereafter would be obliged to hand in the admission fee at the time of making his application, and providing that no member who had been dropped from the roll for non-payment of dues should be readmitted by petition until after nine years.

THE REPORT OF THE COMMITTEE ON NOMINATIONS was then presented, as follows: *Vice-Presidents*, Dr. J. PERKINS, of Owassos; Dr. J. M. COOK, of Muskegon; Dr. G. CHITTOCK, of Jackson; Dr. C. BRUMONE, of Detroit. *Secretary*, Dr. GEORGE E. RANNEY, of Lansing. *Treasurer*, Dr. A. R. SMART, of Hudson. *Judicial Committee*, Dr. OWEN, of Ypsilanti; Dr. TYLER, of Bay City; Dr. McCALL, of Lapeer. *Delegates to the American Medical Association*, Dr. BRODIE, of Detroit; Dr. BAKER, of Lansing; Dr. BENNETT, of Coldwater; Dr. BOOK, of Detroit; Dr. BRECKEY, of Ann Arbor; Dr. BRUMONE, of Detroit; Dr. CARSTEN, of Detroit; Dr. CLISBEE, of Coldwater; Dr. CONNOR, of Detroit; Dr. DUNSTER, of Ann Arbor; Dr. DUFFIELD, of Dearborn; Dr. FRENCH, of Battle Creek; Dr. HAGADORN, of Lansing; Dr. HITCHCOCK, of Kalamazoo; Dr. JOHNSON, of Grand Rapids; Dr. MACLEAN, of Detroit; Dr. COLE, of Lapeer; Dr. OAKLEY, of Ypsilanti; Dr. OWEN, of Ypsilanti; Dr. PALMER, of Ann Arbor; Dr. PRATT, of Kalamazoo; Dr. RANNEY, of Lansing; Dr. SIGNEY, of Pinkney; Dr. SHANK, of Lansing; Dr. SNOW, of Dearborn; Dr. SOUTHWORTH, of Monroe; Dr. TUPPER, of Bay City; Dr. TYLER, of Bay City; Dr. WADE, of Holly; Dr. WHELAN, of Hillsdale; Dr. SHEPARD, of Grand Rapids. *Committee on Legislation*, Dr. PRATT, Dr. PIERMONTE, Dr. TYLER, Dr. KARSON, Dr. SMART; *Committee on Reorganization*, Dr. JOHNSON, Dr. AVERELL, Dr. McCALL, Dr. CARMON, Dr. BRECKEY.

Dr. DONALD MACLEAN, of the University of Michigan, was elected president for the coming year.

PLACENTA PREVIA.—Dr. E. P. CHRISTIAN, of Detroit, read a paper on this subject.

CASES IN GYNECOLOGY were reported by Dr. CHARLES SHEPARD, of Grand Rapids.

NASAL CATARRH.—Dr. A. W. NICHOLS, of Greenville, read a paper in which he recommended quite a number of remedies, and stated that a committee of the American Medical Association had nearly come to the conclusion that little good resulted from a change of climate, except in a few cases of a permanent residence in Colorado or Dakota.

Dr. HEMINWAY stated that patients in the early stages of nasal catarrh were often troubled with sweating feet, and that soaking the feet in warm water often cured the catarrh. He also spoke highly of the vapor of iodine.

A number of papers were read by title and referred to the publishing committee without discussion. Papers by Dr. WADE, Dr. WARD, Dr. SULLIVAN, Dr. McCALL, Dr. SMART, and Dr. SMITH were thus read and hastily passed over.

THE ANNUAL ADDRESS.—President WHELAN read his annual address, which dealt with the history of medicine from the earliest time to the present day. In his opinion medicine had done much to break up the clouds of ignorance which prevailed during the Dark Ages; this it had done by building up the minds of the people, and, despite the bitter opposition there had always been against it, medicine had triumphed over all obstacles.

Dr. EUGENE SMITH, of Detroit, read a paper on GRANULAR LIDS.

Dr. KIRKLAND read a paper on AURAL CATARRH, the point of which was that deafness often came on insidiously from this cause, and that the person was nearly or quite deaf before he knew it, for the reason that the deaf ear was generally the one with which the patient seemed to hear best.

REMARKS OF THE PRESIDENT-ELECT.—THE PRESIDENT-ELECT, Dr. MACLEAN, was then escorted to the platform and introduced to the Society. He said that he must certainly be of a very old nature if he did not show his feelings toward the Society for the kindness and honor bestowed upon him. He hardly hoped or expected to make so good or so efficient a president as his predecessor, but he enjoyed the work and would try to make the next meeting as large as this one, if not the largest ever held. He said he had been in quarrels, but they had been mistakes of the head rather than of the heart. His intentions always had been and always would be for the good of the Society.

Dr. WHELAN said the communication sent in by the Woman's Temperance Union was upon a scientific subject, and he hoped some of the members would present papers upon that subject. [The communication suggested the preparation of papers on the effects of tobacco and alcoholic drinks.]

The Society adjourned, to meet at Port Huron the second Wednesday in June, 1885.

Miscellany.

THE INTERNATIONAL MEDICAL CONGRESS OF 1884.—The Eighth International Medical Congress will be held in Copenhagen, beginning on Sunday, August 10th, and ending on Saturday, August 16th. The following information is condensed from the official "Rules and Programme":

Membership.—Any medical man qualified by law to practice in his own country may become an ordinary member by registering his name, paying the subscription (20 Danish crowns), and taking out the tickets of admission. The registration will be conducted at the University buildings on and after August 9th (from 9 A. M. to 5 P. M. on the 9th, from 9 to 11 A. M. on the 10th, and from 8 to 9 A. M. on the following days). The inscription may also be obtained in advance by sending to the secretary-general, Professor C. Lange, the amount of the subscription, together with a specification of the applicant's name, position, and residence. Each member is entitled to a copy of the volume of "Transactions" when it is published.

Hotel Accommodations.—A bureau will be established at the railway station, where information in regard to lodgings, etc., may be had by members on their arrival.

The Journey to Copenhagen.—We earnestly advise those of our readers who intend to make the trip to Europe for the special purpose of attending the congress to take the Thingvalla (Danish) Line of steamships direct from New York to Copenhagen. Everything conducive to passengers' comfort and safety is as well managed on this line as on the more pretentious lines running to England, France, and Germany, while the charges are decidedly lower than on the more frequented lines. The trip takes from twelve to fifteen days, and is exceedingly interesting and picturesque, and persons who have never been in Denmark may derive much useful information about the ways of the country from the officers and crew during the passage. The sailings of the ships of this line, between now and the time of the assembling of the congress, are announced as follows: The Geiser, July 6th; the Thingvalla, July 19th; and the Hekla, August 2d. For further information, application should be made to Mr. G. C. Maringer, 21 State Street, New York. Another eligible line for the purpose is that of the Hamburg-American Steamship Company, since Hamburg is the point at which the routes from England to Copenhagen meet. There are two routes from Hamburg to Copenhagen: One by way of Kiel-Korsör, taking thirteen hours, including six hours at sea; the other by way of Fredericia-Nyborg-Korsör, taking twenty-five hours, including two hours at sea. From London one may reach Hamburg by the boats of the General Steam Navigation Company in about thirty-six hours; by way of Queensborough and

Flushing; by way of Dover and Ostend; or by way of Dover and Calais.

The Work of the Congress, which will be exclusively scientific in character, will be done in general meetings, for the transaction of business and for addresses and communications of general interest, and in fourteen sections. The election of general officers, a president, three vice-presidents, and a certain number of honorary vice-presidents and secretaries, will be in order at the first general meeting. The general meetings will be held from 4 to 5.30 P. M., but some extraordinary general meetings will be held in the evening, for addresses of a popular character. The addresses will be given only by those who have been invited to address the congress by the organizing committee. The official languages are French, German, and English, but brief remarks in discussions may be made in other languages, provided some member is willing to interpret for the speaker. The MSS. of addresses and papers are to be handed to the secretaries before the close of the congress, and those who take part in the discussions are requested to write out the substance of their remarks before the end of the day. As a rule, the reading of introductory addresses will be limited to twenty minutes, and in the discussions no speaker can be allowed more than ten minutes. Medical students, as well as ladies and gentlemen who are not members of the medical profession, but may be interested in the proceedings of any particular meeting, may be invited or allowed by the officers to be present at such meeting.

The Addresses are announced as follows: On Metaplasia, by Professor Virchow, of Berlin; On Morbific Micro-organisms and Vaccinal Matters, by Professor Pasteur, of Paris; International Collective Investigation of Disease, by Sir William Gull, of London; The Natural Production of Malaria and the Means of making Malarial Countries more wholesome, by Professor Crudeli, of Rome; The Neoplastic Diathesis, by Professor Verneuil, of Paris; On Investigations of Food Rations for Men in Health and Disease, especially in Hospitals, Infirmarys, and Prisons of different Countries, by Professor Panum, of Copenhagen.

The Sections will meet twice daily, from 10 A. M. to 12 M., and from 1 to 3 P. M. If the same or similar subjects are contained in the programmes of different sections, the sections may agree to discuss such subjects in common.

The Section in Anatomy.—Prepared Communications: The Cell-Nucleus and Cell-Division, by Professor Flemming, of Kiel; The Histology of the Striped Muscles, by Professor v. Ebner, of Gratz; The Origin of the Red Corpuscles of the Blood, by Professor Bizzozero, of Turin; The State of Glandular Cells during their Activity, by Professor Ranvier, of Paris; The Anatomy of the Labyrinth of the Ear, by Professor Retzius, of Stockholm; The Terminations of the Sensitive Cutaneous Nerves, by Professor Merkel, of Königsberg; The Mechanism of the Respiratory Movements, by Professor v. Meyer, of Zürich; The Rotatory Movements of the Forearm, by Professor Heiberg, of Christiania, and Professor Morris, of London; The Developments of the Form and the different Parts of the Heart, by Professor His, of Leipzig; The Development of the Branchial Fissures and Arches, by Professor Cadiat, of Paris. *Announced Communications:* On some embryological subject, by Dr. Allara, of Moscazzano; on the human venous system, by Professor Braune, of Leipzig; on several embryological subjects, by Professor Cadiat, of Paris; On the Functions of the Sympathetic Nerves, as deduced from the Anatomy of their Radicles, by Dr. Hoggan, of London; various communications, by Professor v. Kölliker, of Würzburg; The Variations and Development of the Lacrymal Bone, and its Relations to the Soft Parts of the Orbit, by Professor Macalister, of Cambridge; The Mechanism of the Foot, by Professor v. Meyer, of Zürich; The Nature of Certain Ligaments, by Mr. Sutton, of London; On the Remains of the Wolffian Bodies in Female Mammals, and on the Development of the Epithelium of the Esophagus in the Human Embryo, by Professor Tournoux, of Lille.

The Section in Physiology.—The following contributions have been promised: On Mucous Matters and their Relations to Albuminous Matters, by Dr. Hammarstedt, of Upsala; On the Part played by the "Fugitive Corpuscles of the Blood" in the Formation of Fibrin and in Coagulation, and on the Relation which the "Hæmatoblasts" of Hayem and the "Piastrine" of Bizzozero hold to the "Fugitive Discs of the Blood," by Professor Norris, of Birmingham, and Professor Hayem, of Paris;

On the Coagulation of Fibrin, by Professor Dogiel, of Kasan; On the Coagulation of the Blood, by Dr. Woodbridge, of Cambridge; The Relations between the Number of Red Corpuscles of the Blood and the Quantity of Hæmoglobin and of Dry Corpuscles of the Blood, by Professor Worm-Müller, of Christiania; Demonstrations on the Blood, by Professor Malassez, of Paris; Recent Investigations on Hæmoglobin and Methæmoglobin, by Dr. Otto, of Christiania; Absorptiometric Researches on the Dissociation of Oxhæmoglobin, by Dr. C. Bohr, of Copenhagen; On the Gases of the Secretions, especially of the Bile, by Professor Charles, of Cork; Demonstrations on the Structure and Changes of Muscular Fiber and Protoplasm with regard to their Relation to the Physiological Functions, by Professor Engelmann, of Utrecht, Professor Ranvier, of Paris, Professor Merkel, of Königsberg, and Professor Retzius, of Stockholm; The Changes of Glandular Cells during their Activity, and the Relation of those Changes to the Question of Trophic Nerves, by Professor Heidenhain, of Breslau, and Dr. Langley, of Cambridge; Inhibitory Action and the Inhibitory Nerves in general, by Dr. Gaskell, of Cambridge; The Causes and the Regulation of the Movements of the Heart in Animals during the Action of certain Poisons, by Professor Dogiel, of Kasan; The Center of Co-ordination for the Movements of Ventricles of the Heart, by Professor Kronecker, of Berlin; The Functions of the Cortex Cerebri, by Professor Munk, of Berlin; The Mechanism of the Circulation, by Professor Mosso, of Turin, Professor Marey, and Professor Franck, of Paris; The Experimental Pathology of the Circulation in Artificial Lesions of the Heart, by Professor Franck, of Paris; Instantaneous Photography in Physiological Investigations, by Professor Sanderson, of London, and Professor Mosso, of Turin; Instantaneous Photography in the Study of Voluntary Movements (at an evening session), by Professor Marey, of Paris; The Structure and the Function of the Labyrinth, by Professor Hensen, of Kiel, and Dr. Baginsky, of Berlin; The Specific Functions of the Cutaneous Nerves, by Dr. Blix, of Upsala; Ought Hereditary Transfer to be taken into Account in Lectures on Physiology? by Professor Hensen, of Kiel; Present Views concerning Deglutition, by Professor Kronecker, of Berlin; Automatic, Reflex, and Inhibitory Actions in Cardiac, by Dr. Openchowski, of Dorpat; Experimental Fistule of the Small Intestine, by Professor Panum, of Copenhagen.

The Section in General Pathology and Pathological Anatomy.—Prepared Communications: The Relation between Scrofulosis and Tuberculosis, by Professor Grancher, of Paris, and Professor Chauveau, of Lyons; Tuberculosis of Domestic Animals as a Source of Human Tuberculosis, by Professor Chauveau, of Lyons; Tuberculosis of the Cow's Udder, and Experiments in Inoculation and Feeding with Milk from Tuberculous Udders, by Professor Bang, of Copenhagen; Necrosis by Coagulation, by Professor Weigert, of Leipzig; The Morphological and Physiological Variability of Pathogenic Bacteria, by Dr. Koch, of Berlin; The Relations between Connective-Tissue, Parenchymatous, Blood-Vascular, and Cardiac Changes in Chronic Nephritis, by Professor Cornil, of Paris, and Sir W. Gull, of London; Acute Nephritis, especially the "Glomerulo-Nephritis," and Consecutive Cardiac Hypertrophy, by Dr. Friedländer, of Berlin; The Pathological Anatomy of Anæmia (author's name not mentioned); The Transformations of Cellular Elements in an Inflammatory Focus of Bacterial Nature, by Professor Cornil, of Paris. *Announced Communications:* On the Lesions Caused in Animals by the Jequirity Bacillus, by Professor Cornil, of Paris; On the Ixodes, a Human Parasite but little known, by Professor Roquemondane, of Limoges; The *Cysticercus cellulosus* in the Human Brain, and On the Relations of Anencephalia, Cyclopia, and Synotia with the Primordial Skull, by Professor Hannover, of Copenhagen; The Effects of the Infusion of Jequirity, by Dr. Salomonsen and Dr. Holmfeldt, of Copenhagen. *Demonstrations:* The Method of Projection for Demonstrations of Histological Preparations, and its Application in Lectures on Pathological Anatomy, by Professor Cornil, of Paris; The Pneumonia Micrococcus, by Dr. Friedländer, of Berlin; A Cavernous Formation between the Sclerotic and the Choroid of the Human Eye, hitherto unknown, by Professor Hannover, of Copenhagen; Mortal Emboli of the Heart and the Pulmonary Artery, by Professor Bang, of Copenhagen; The Culture of Bacteria in Capillary Tubes, by Dr. Salomonsen, of Copenhagen.

The Section in Medicine.—Prepared Communications: On a Uniform Nomenclature of Auscultatory Sounds in the Diagnosis of Diseases of the Chest, by Professor Flint, of New York; The Antipyretic Treatment of Acute Infectious Diseases, by Professor Liebermeister, of Tübingen, and Dr. Warfvinge, of Stockholm; The Antiseptic Treatment of Acute Infectious Diseases, by Professor Bouchard, of Paris; Clinical Observations on the Toxic Principles which are formed in Living Organisms, by Professor Lépine, of Lyons; Malarial Infection in Man, by Professor Crudeli, of Rome, and Professor Rosenstein, of Leyden; The Etiology, Diagnosis, Prognosis, and Treatment of Tuberculosis as Influenced by Recent Experiences in Pathological Anatomy and Experimental Pathology, by Professor Ewald, of Berlin; The Operative Opening of Pulmonary Cavities, by Dr. Bull, of Christiania; the Influence of Acute Infectious Diseases on the Kidneys, by Professor Stewart, of Edinburgh; Ulcer of the Stomach, by Professor Leube, of Erlangen; Peritonitis resulting from Diseases of the Vermiform Appendix, by Professor With, of Copenhagen; Is Acute Pneumonia an Infectious Disease? by Professor Jürgensen, of Tübingen; The Different Actions of japaconitine, pseudaconitine, and the French and the German aconitine, by Dr. Buntzen, of Copenhagen; The Different Forms of Diabetes Mellitus and their Clinical Characters, by Dr. Budde, of Copenhagen; The Value of Recent Researches on Blood-Corpuscles for the Pathology of Anæmic and Leucæmic Diseases, by Dr. Laache, of Christiania; The Treatment of Pleuritic Effusion, by Dr. Landouzy, of Paris. *Announced Communications:* On the Treatment of Diarrhœa and Dysentery in Persons who have returned from a Residence in a Hot Climate, by Dr. Ewart and Sir J. Fayer, of England; Subacute Pneumonia, by Dr. Grancher, of Paris; (Esophageal Auscultation, by Dr. Baréty, of Nice; On Atrophy Hemifaciæ, by Professor Lewin, of Berlin; On Baths and Douches of Condensed Air, by Dr. Dupont, of Paris; On Direct Transfusion of living Blood, and on Medicinal Hypodermic Injections, by Dr. Roussel, of Paris.

The Section in Surgery.—Prepared Communications: The Listerian Antiseptic Treatment in its Present Form, by Sir J. Lister, of London; The Iodoform Treatment, by Professor Mosetig-Moorhof, of Vienna; The Sublimate Treatment, by Dr. Schede, of Hamburg; The Treatment with Oxygenated Water, by Professor Bert, of Paris; Permanent Antiseptic Dressing, by Professor Esmarch, of Kiel; Anæsthetics in Surgery, by Professor Bert, of Paris; On Excision and Arthrotoomy in Tuberculous Joint Diseases, by Professor Ollier, of Lyons; Resection of the Stomach and the Intestinal Tube, by Professor Gussenbauer, of Prague; Nephrotomy (including Nephrolithotomy) and Nephrectomy, by Mr. Thornton, of London; Operations for Movable Kidney, by Dr. Hahn, of Berlin; Trephining in Localized Diseases of the Brain, by Dr. Lucas-Championnière, of Paris, Professor Ferrier, of London, and Professor Mollière, of Lyons; Osteotomy for Genu Valgum, by Professor Macewen, of Glasgow; Osteotomy for Club-foot (Cuneiform Osteotomy), by Professor Holmer, of Copenhagen; (Esophagotomy and Gastrostomy for Strictures of the (Esophagus, by Professor Studsgaard, of Copenhagen, Professor Verneuil, of Paris, and Professor Hjort, of Christiania; Colotomy and Extirpation of the Rectum for Malignant Disease, by Professor Bryant, of London, Professor Esmarch, of Kiel, and Professor Verneuil, of Paris; Cystotomy in the Diagnosis and Treatment of Tumors of the Bladder, by Professor Guyon, of Paris. *Announced Communications:* Operation for Congenital Dislocation of the Hip Joint, by Dr. Margary, of Turin; Articulation after Extirpation of the Larynx without Artificial Apparatus, and a Case of Cancer of the (Esophagus cured by Excision of that Organ, by Dr. Navaro, of Turin; Three Cases of Cholecystotomy, by Dr. Bœckel, of Strassburg; On Torsion of Great Arteries near their Bifurcation, by Dr. Wanscher, of Copenhagen; A New Method of Osteoclasis for Genu Valgum, by Dr. Robin, of Lyons; Osteotomy of the Hip, by Mr. Keetley, of London; On Massage, by Dr. Zabudowsky, of Berlin.

The Section in Obstetrics and Gynecology.—Prepared Communications: Antiseptics in Laparotomy, by Professor Mikulicz, of Cracow; On the Early Performance of Ovariectomy, by Mr. Thornton, of London; The Treatment of Myomata Uteri by Laparotomy, by Professor Kœberlé, of Strassburg; The Treatment of Uterine Tumors, by Mr. Tait, of Birmingham; Supravaginal Amputation of the Uterus by the Vagina as a Treatment for Tumors in the Posterior Uterine Wall, by Dr. Margary,

of Turin; The Destruction of Uterine Tumors by Electrolytic Puncture, by Professor Meunière, of Paris; Oöphorectomy as a Remedy for Nervous and Mental Sufferings, by Professor Hegar, of Freiburg; Vaginal Excision of the Cancerous Uterus, by Professor Schröder, of Berlin; The Operative Treatment of Extra-uterine Pregnancy, by Professor Litzmann, of Kiel; A Common International Nomenclature in Obstetrics, by Professor Simpson, of Edinburgh; The Significance of Albuminuria in Pregnant Women, by Professor Halbertsma, of Utrecht; The Cesarean Section and its Modifications, by Professor Müller, of Berne; A Comparison between Embryotomy, Cesarean Section, and Porro's Operation in Cases of Contracted Pelvis, by Professor Eustache, of Lille; On the Treatment of the Third Stage of Labor, by Professor Stadfeldt, of Copenhagen; Statistics of Puerperal Fever in Denmark, by Dr. Ingerslev, of Copenhagen. *Announced Communications:* On the Difficulties in Diagnosis caused by Hypertrophy of the Cervix Uteri, by Professor Horwitz, of Copenhagen; The Operative Treatment of Hematocele and Hematoma, by Professor Zweifel, of Erlangen; The Treatment of Sterility, by Dr. Madden, of Dublin; A New Operation for Ruptured Perineum, by Professor Kœberlé, of Strassburg; Partial Excision of the Peritonæum, by Dr. Sänger, of Leipsic; Uterine Adenolymphangitis, by Dr. Martineau, of Paris; Physiological and Pathological Remarks on Oriental Women, by Dr. Zambaco, of Constantinople; Congenital Lateropositions of the Uterus in their Relation to the Mechanism of Labor and to Peritumors, by Professor Lazarewitsch, of Kharkoff.

The Section in Ophthalmology.—Prepared Communications: On the Practical Value of Light-Sense Examination in Ophthalmology, by Dr. Samelsohn, of Cologne, Dr. Bull, of Christiania, and Dr. Bjerrum, of Copenhagen; The Color Sense, by Professor Holmgren, of Upsala; On the Examination of the Vision of Railway Functionaries, by Dr. Redard, of Paris; On the Methods of Testing the Color Sense of Seamen, by Dr. Brailey, of London; Latent Squint, especially Latent Divergent Squint, by Professor Graefe, of Halle, and Dr. Grut, of Copenhagen; On Some Forms of Keratitis, by Dr. Grut, of Copenhagen; The Determination of Refraction by Means of the Ophthalmoscope, by Professor Schmidt-Rimpler, of Marburg; On Blepharorrhœa Neonatorum, its Prevention and Treatment, by Dr. Christensen, of Copenhagen; On the Refraction of Infants, by Dr. Bjerrum, of Copenhagen. *Announced Communications:* The Artificial Ripening of Cataract, by Dr. Meyer, of Paris; Capsular Advancement of the Ocular Muscles, by Dr. de Wecker, of Paris; Diseases of the Conjunctiva and the Action of Jequirity, by Professor Sattler, of Erlangen; Trachoma and Amyloid Degeneration, by Professor Raehlmann, of Dorpat; Granulations and their Treatment, and On Extraction of Cataract without Excision of the Iris, by Dr. Galezowski, of Paris; Contributions to Ocular Therapeutics, by Dr. Seely, of Cincinnati; Inflammation of the Eye and its Surroundings from Astigmatism, by Dr. Martin, of Bordeaux; The Anatomy of the Ciliary Muscle, by Professor Sattler, of Erlangen; The Relations of Visual Disturbances and the Skin, by Dr. Mooren, of Düsseldorf; Opalescence of the Pupillary Area with Pellucidity of the Dioptric Media, by Mr. Watson, of London; The Results of Great Losses of Substance of the Cornea, and The Reaction on the Papilla of Lesions of the Anterior Parts of the Eye, by Dr. Gayet, of Lyons; The Mixture of Spectral Colors, by Dr. Dobrowolsky, of St. Petersburg; Obstruction of the Nasal Duct, and On Astigmatism, by Dr. Yuler, of London; The Color Sense, by Dr. de Grandmont, of Paris; Chronic Gastritis as a Cause of Certain Eye Diseases, by Dr. Christensen, of Copenhagen. *Demonstrations:* The ophthalmoscope for artists, by Dr. Adams, of London; hyperbolic glasses in keratoconus pellucidus, by Professor Raehlmann, of Dorpat; a self-registering perimetry, by Dr. McHardy, of London.

The Section in Pediatrics.—Prepared Communications: The Treatment of Chronic Diseases of Children at Seacoast Hospitals, by Dr. Scheepelen, of Refsans; The Normal Increase of Weight in Advanced Childhood, by Mr. Hansen and Dr. Wahl, of Denmark; The Prophylactic Treatment of Ophthalmoblenorrhœa Neonatorum, by Dr. Meyer, of Copenhagen; On the Choice of Antiseptics for the Treatment of Wounds in Children, by Dr. Rupprecht, of Dresden; The Value of the Pediatric Policlinic, etc., by Dr. Rauehuss, of St. Petersburg; Nephritis in Children, particularly in Babies, by Professor Kjellberg, of Stockholm; Meningitis Tuberculosa in the First Year of Life, by Dr.

Medin, of Stockholm; The so-called Acute Rickets, by Dr. Rehn, of Frankfurt on the Main, and Dr. Barlow, of London; Intestinal Invagination and its Comparative Frequency in Different Countries, by Professor Ribbing, of Lund, and Professor Hirschsprung, of Copenhagen; Croup from a Clinical Point of View, by Dr. Rauffuss, of St. Petersburg; The Pathology and Treatment of Infantile Cholera, by Dr. Baginsky, of Berlin. *Announced Communication:* On an easily Curable Form of Infantile Spinal Paralysis, by Professor d'Espine, of Geneva.

The Section in Dermatology and Syphilis:—Prepared Communications: On the Syphilitic Origin of Tabes Dorsalis, by Professor Fournier, of Paris; The Treatment of Syphilis with Mercurial Injections, by Dr. Liebreich, of Berlin, Professor Lewin, of Berlin, Professor Neumann, of Vienna, and Dr. Martineau, of Paris; The Tests of the Cure of Syphilis, by Professor Köbner, of Berlin; Excision of the Initial Sclerosis as an Abortive Treatment of Syphilis, by Professor Pick, of Prague, and Dr. Jullien, of Paris; The *Ætiology* and Pathology of Leprosy, by Dr. Hansen, of Bergen; A New System in the Pathology of the Skin, by Professor Schwimmer, of Buda-Pesth; The *Ætiology* of Lupus Vulgaris, by Professor Doutrelepoint, of Bonn, Professor Pick, of Prague, Dr. Leloir, of Paris, and Dr. Morris, of London; Lupus and Tuberculosis of the Skin, by Professor Kaposi, of Vienna; On the Time of the Cessation of the Contagiousness of Gonorrhea, by Dr. Bockhart, of Würzburg; On the Role of Micro-organisms in Skin Diseases formerly not considered Parasitic, by Dr. Unna, of Hamburg. *Announced Communications:* On Endoscopes, by Dr. Grünfeld, of Vienna; Syphilis in Animals, by Dr. Martineau, of Paris; On the Role of the Nervous System in Diseases of the Skin, by Professor Schwimmer, of Buda-Pesth; Late Hereditary Syphilis, and the Visceral Manifestations of Syphilis, by Dr. Barthelemy, of Paris; A Comparison of the Mercury with the Iodide-of-potassium Treatment of Secondary Syphilis, by Dr. Gouguenheim, of Paris.

The Section in Psychiatry and Nervous Diseases:—Prepared Communications: The Statistics of Mental Diseases and Psychiatric Institutions in the Scandinavian Countries, by Professor Steenberg, of Denmark; A Plan for Uniformity in the Reports of Lunatic Asylums in Various Countries, by Dr. v. Schwartz, of Buda-Pesth; The Value of Agricultural Colonies in the Treatment of Insanity, by Dr. Paetz, of Alt-Scherbitz; The Part played by Schools in the Production of Mental Diseases, and The Value of Exercises in the Treatment of Mental Diseases, by Professor Kjellberg, of Upsala; The Relation of Progressive General Paralysis to Syphilis, by Dr. Rohmell, of Denmark; Morphinism and its Treatment, by Professor Obersteiner, of Vienna; The so-called "Psychic Epileptic Equivalent," by Dr. Hallager, of Denmark; Secondary Degenerations in the Spinal Cord, by Professor Pitres, of Bordeaux, and Dr. Homen, of Helsingfors; Vaso-Motor and Tropic Neuroses, by Professor Eulenburg, of Berlin; The Histological Lesions in Amyotrophic Lateral Sclerosis, by Professor Charcot, of Paris, and Dr. Friedreich, of Copenhagen; The Curability of Tabes Dorsalis, by Professor Eulenburg, of Berlin. *Announced Communications:* Psychological Analysis as a Basis for Psychiatric Diagnosis, by Dr. Ramaer, of the Hague; The Dyscratic Origin of Physical and Nervous Disturbances, by Dr. Müller, of Blankenburg; Cretinism, by Dr. Allara, of Moscazzano; The Doctrines of Cerebral Localizations, by Dr. Shuttleworth, of Lancaster; Ataxic Disturbances of Speech without Cerebral Symptoms, by Dr. Chervin, of Paris; The Vascularization of the Medulla Oblongata, and Cerebral Irritation, Cerebral Compression, and Cerebral Paralysis, by Professor Adamkiewicz, of Vienna; Hysteria, Hypnotism, Ecstasy, etc., by Dr. Zambaco, of Constantinople.

The Section in Laryngology:—Prepared Communications: The Prognostic Significance of the Several Local Manifestations observed in Tuberculosis of the Larynx, by Dr. Solis-Cohen, of Philadelphia; Tuberculosis of the Larynx, by Dr. Gouguenheim, of Paris; Paralysis of the Larynx, by Dr. Semon, of London; The Treatment of Diseases of the Respiratory Passages by Inhalations, by Professor Schnitzler, of Vienna; The Pathology and Treatment of Chronic Naso-pharyngeal Catarrh, by Dr. Breggen, of Frankfurt, and Dr. Guye, of Amsterdam; The Treatment of Goitre, by Dr. Mackenzie, of London, and Professor Ribbing, of Lund; The Operative Removal of Foreign Bodies and Pseudoplasms from the Air-Passages, by Professor Voltolini, of Breslau, and Professor Lefferts, of New York; The Treatment of Diphtheria, by Dr.

Seifert, of Würzburg, and Dr. Nix, of Rude; The Treatment of Nasal Polypus, by Dr. Fauvel, of Paris; The Singing Voice, by Dr. Bosworth, of New York, and Dr. Browne, of London; Syphilitic Affections of the Larynx, by Professor Lewin, of Berlin. *Announced Communications:* A Manual for Laryngological Exercises, by Dr. Garrel, of Lyons; Photography of the Larynx, by Dr. French, of Brooklyn; The Accumulator and Galvanic Cauterization, by Dr. Bayer, of Brussels.

The Section in Otolology:—Prepared Communications: The Different Kinds of Subjective Sounds and their Treatment, by Dr. E. Woakes, of London, Dr. de Lacharrière, of Paris, and Professor Lucas, of Berlin; The Dissection of the Organ of Hearing, with Particular regard to its Pathological Changes, by Professor Voltolini, of Breslau, and Dr. Kirk-Duncanson, of Edinburgh; Nervous Ear Diseases, by Dr. Bull, of Christiania; Chronic Naso-pharyngeal Catarrh, by Dr. Breggen, of Frankfurt on the Main, and Dr. Guye, of Amsterdam; The Artificial Opening of the Mastoid Process, by Professor Schwartz, of Halle; The Diagnosis of Intra-cranial Complications in Suppurative Inflammation of the Middle Ear, by Dr. Robin, of Paris, and Dr. Green, of Boston; The Significance of Ear Diseases as to Ability for Military Service, by Dr. Bremer, of Copenhagen; The Treatment of Nasal Polypus, by Dr. Fauvel, of Paris; The Importance of Otolology for General Medical Education, by Professor Wreden, of St. Petersburg. *Announced Communications:* The Mechanical Treatment of Disturbances of the Sound-conducting Apparatus without the Air-douche, by Professor Lucas, of Berlin; Tenotomy of the Tensor Tympani in the Treatment of Deafness, and On Deaf-mutism considered from a Medical Point of View, by Dr. Giampietro, of Naples; The *Ætiology* of Deaf-mutism, and On the Instruction of Deaf-mutes, principally in Denmark, by Dr. Salomonsen, of Copenhagen.

The Section in State Medicine:—Prepared Communications: What can be done to check the Abuse of Morphine and other Preparations of Opium? by Professor Brouardel, of Paris; The Health of Danish and Swedish School Children, by Dr. Hertel, of Copenhagen, and Professor Key, of Stockholm; How can the Abuse of Alcoholic Liquors be best prevented? (author's name not given); How is Scoury to be prevented in Prisons and Workhouses? by Professor de Chaumont, of Netley; The Statistics of the Mortality from Phthisis in Danish Towns, by Dr. Lehmann, of Copenhagen; The Choice of Disinfectants (author's name not given); Legislation to prevent Accidents from Poisoning, by Dr. Berlin, of Stockholm; The Vacation-Stay of Poor Children in the Country, by Mr. Holbeck, of Copenhagen; The Prevention of Epidemics when a Single Case of an Infectious Disease has appeared, and the Diseases that ought to be subjected to such Measures, by Dr. Linroth, of Stockholm; Seacoast Hospitals for Scrofulous Children, by Dr. Engsted, of Copenhagen; The Application of Spectrum Analysis to Forensic Questions, especially in the Demonstration of Poisoning by Oxide of Carbon, by Professor Jäderholm, of Stockholm; The Hygiene of Churchyards, by Dr. Levison, of Copenhagen. *Announced Communications:* Vaccination, and On the Dissemination of Small-pox Virus through the Air, by Dr. Makuna, of England; The Prophylaxis of Yellow Fever, by Dr. Théréopolis, of Paris.

The Section in Military Medicine:—Prepared Communications: The Antiseptic Treatment of Wounds in Time of War, with particular regard to the Employment of Safe, Efficacious, and Simple Requisites of such Small Compass as to adapt them particularly to Military Surgery, by Professor Esmarch, of Kiel, Sir W. MacCormac, of London, Dr. Neudörfer, of Vienna, and Dr. Strube, of Berlin; Surgical Hemostasis in Times of Peace and War, by Dr. Neudörfer, of Vienna; Croupous Pneumonia among Soldiers, by Dr. Poulsen, of Copenhagen; Periostitis caused by Over-fatigue among Soldiers, by Dr. Laub, of Copenhagen; Pneumatometry as a Means of Testing the Health of Soldiers, by Dr. Dahlerup, of Nyborg; Allowances of Alcoholic Liquors for Soldiers and Sailors, by Dr. Schmulewitsch, of St. Petersburg. *Announced Communications:* The Hygienic Protection of an Active Army and of the Surrounding Country in the Rear, by Dr. Michaëlis, of Innsbruck; Sun-stroke, by Sir J. Fayer, of London; Typhoid Fever among European Soldiers and others in the Tropics, by Dr. Ewart, of Brighton; Medicomilitary Statistics as an Important and Unique Basis of International Statistics for European States, by Dr. Schmulewitsch, of St. Petersburg.

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